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*As for the wise, their
body alone perishes in
this world — Rashi*

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Brandeis University

**The
Graduate School
of Arts and
Sciences**

1969–1970

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*Louis Dembitz Brandeis
from a sculpture by Robert Berks*





brandeis university bulletin

1969-1970

graduate
school
of
arts
and
sciences

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*As for the wise, their
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reme Court Justice
Dembitz Brandeis

This publication is correct as of July 1, 1969

Vol. XIX No. 2, August, 1969

*Brandeis University Bulletin, published seven times a year;
three times in August and once each in September, October, February and May;
at Brandeis University, Waltham, Massachusetts 02154.*

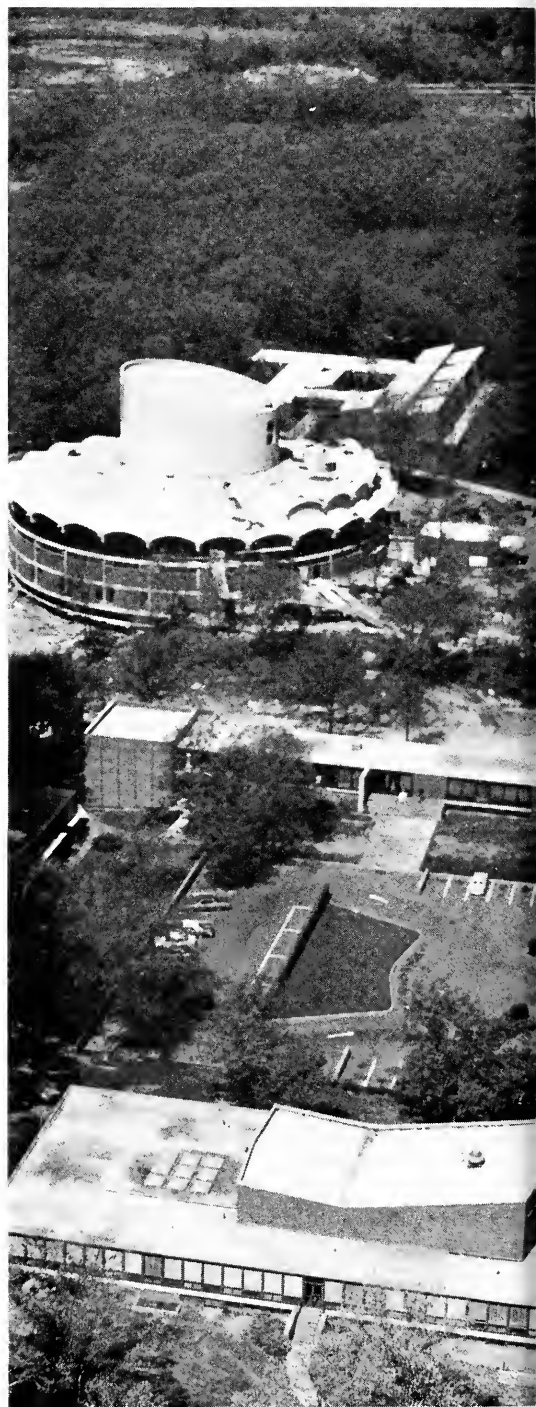
*Entered as second class matter at the Post Office
at Boston, Massachusetts.*

"It must always be rich in goals and ideals, seemingly attainable but beyond immediate reach . . .

"It must become truly a seat of learning where research is pursued, books written, and the creative instinct is aroused, encouraged, and developed in its faculty and students.

"It must ever be mindful that education is a precious treasure transmitted—a sacred trust to be held, used, and enjoyed, and if possible strengthened, then passed on to others upon the same trust."

—from the writings of
LOUIS DEMBITZ BRANDEIS (1856–1941)
on the goals of a university.



creative arts complex

"Brandeis will be an institution of quality, where the integrity of learning, of research, of writing, of teaching, will not be compromised. An institution bearing the name of Justice Brandeis must be dedicated to conscientiousness in research and to honesty in the exploration of truth to its innermost parts.

"Brandeis University will be a school of the spirit—a school in which the temper and climate of the mind will take precedence over the acquisition of skills and the development of techniques.

"Brandeis will be a dwelling place of permanent values—those few unchanging values of beauty, of righteousness, of freedom, which man has ever sought to attain.

"Brandeis will offer its opportunities of learning to all. Neither student body nor faculty will ever be chosen on the basis of population proportions, whether ethnic or religious or economic."

DR. ABRAM L. SACHAR, Brandeis' first president, at ceremonies inaugurating the University, October 8, 1948



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Academic Calendar 1969—1970

Fall Term

Monday	September 15	Registration for new students, including payment of fees. Students who register later will be fined \$10.
Tuesday	September 16 and	Registration for returning students, including
Wednesday	September 17	payment of fees. Students who register later will be fined \$10.
Friday	September 19	Opening day of instruction in courses. No section meetings in large courses until announced.
Monday	September 22	No University Exercises.
Monday	September 29	Final date for Fall Term registration with \$10 late fine.
Thursday	October 2	Final date for changing program without \$10 fine.
Thursday	October 9	Final date for <i>adding</i> courses with \$10 fine.
Monday	October 13	No University Exercises.
Tuesday	November 11	No University Exercises.
Thursday	November 27 and	No University Exercises.
Friday	November 28	
Monday	December 1	Final date for <i>dropping</i> courses with \$10 fine.
		Last date for February degree candidates to submit final drafts of theses and dissertations to department chairmen, and to submit "Application for Degree" to Graduate School Office.
Friday	December 19	Winter Recess begins after last class.
Monday	January 5	Classes resume.
Friday	January 9	Final date for faculty certification that February Master's candidates have completed degree requirements, and that Ph.D. candidates have completed and defended dissertations.
Tuesday	January 13 through	Registration for Spring Term for all currently enrolled students. Those who register later will be fined \$10.
Thursday	January 15	
Thursday	January 15	Final date for February degree candidates to discharge all financial indebtedness to the University.
Friday	January 16	No University Exercises.
Monday	January 19 through	Mid-year examinations.
Wednesday	January 28	
Thursday	January 29	Registration for students entering or returning from leave in the Spring Term. Those who register later will be fined \$10.
Friday	January 30	Final date for deposit of Ph.D. dissertations at Graduate School Office by February degree candidates. Grades due for Incompletes from Spring Term 1968-69. Final date for admission to candidacy for the Ph.D. degree and for completion of language requirements for stu-

dents expecting to the degree conferred in June 1970.

Grades due for all Fall Term courses.

Friday February 6

Spring Term

Wednesday February 4 and

Thursday February 5

Thursday February 19

Monday February 16

Thursday February 26

Monday March 2

Wednesday April 1

Friday April 17

Wednesday April 29

Friday May 1

Friday May 15

Monday May 18

Tuesday May 19 through

Friday May 29

Monday May 25

Monday June 1

Friday June 5

Sunday June 7

Opening days of instruction in all courses.

Final date for changing program without \$10 fine.

No University Exercises.

Final date for *adding* courses with \$10 fine.

Final date for registered students to file

"Application for Financial Aid" for 1970-71.

Final date for *dropping* courses with \$10 fine.

Last date for June degree candidates to submit final drafts of theses and dissertations to department chairmen and to file "Application for Degree" with Graduate School Office.

Spring Recess begins after last class.

Classes resume.

Final date for faculty certification that June Master's candidates have completed foreign language requirements.

Final date for faculty certification that June Ph.D. candidates have completed and defended dissertations, and that Master's candidates have completed qualifying examinations and theses.

No University Exercises.

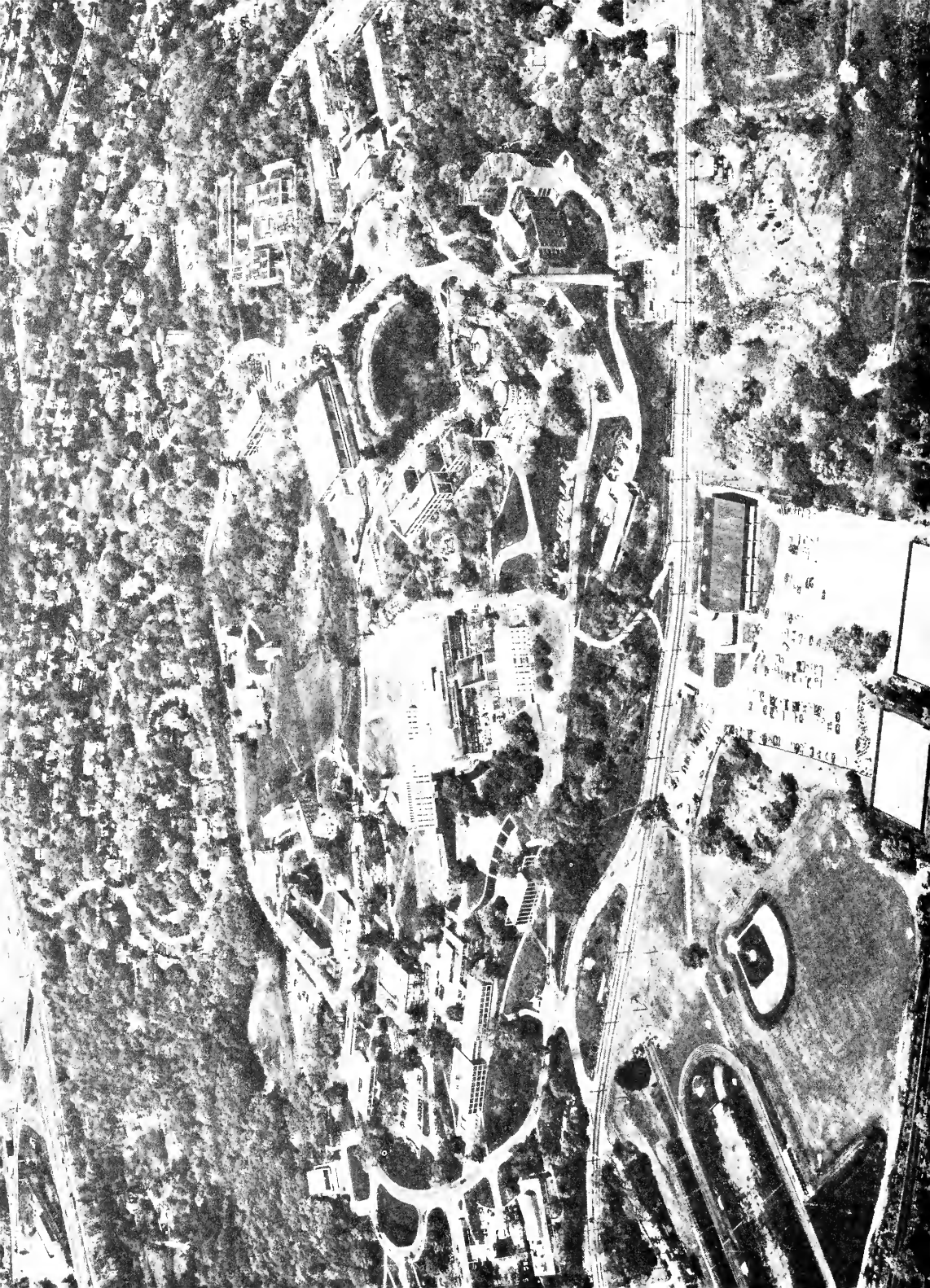
Final examinations.

No University Exercises.

Grades due for all June degree candidates and for incomplete Fall Term courses. Final date for deposit of Ph.D. dissertations with the Graduate School Office. Final date for June degree candidates to discharge all financial indebtedness to the University.

Grades due for all Spring Term and full year courses. Final date for admission to candidacy for the Ph.D. degree and completion of language requirements for students expecting to have the Ph.D. degree conferred in February 1971.

Commencement.



Brandeis University



Brandeis University has set itself to develop the whole man, the sensitive, cultured, open-minded citizen who grounds his thinking in facts, who is intellectually and spiritually aware, who believes that life is significant, and who is concerned about society and the role he will play in it.

The University will not give priority to the molding of vocational skills, nor to developing specialized interests at the expense of a solid general background. This does not mean that what is termed practical or useful is to be ignored. Brandeis merely seeks to avoid specialization unrelated to our basic heritage—its humanities, its social sciences, its sciences and its creative arts. For otherwise, fragmentized men, with the compartmentalized point of view that has been the bane of contemporary life, are created.

A realistic educational system must offer adequate opportunity for personal fulfillment. Education at Brandeis encourages this drive for personal fulfillment, but only within the framework of social responsibility. Thus Brandeis seeks to educate men and women who will be practical enough to cope with the problems of a technological civilization, yet mellowed by the values of a long historical heritage; self-sufficient to the point of intellectual independence, yet fully prepared to assume the responsibilities society imposes.

Brandeis University came into being because of the desire of American Jewry to make a corporate contribution to higher education in the tradition of the great American secular universities that have stemmed from denominational generosity. By choosing its faculty on the basis of capacity and creativity, and its students according to the criteria of academic merit and promise, the University hopes to create an environment which may cause the pursuit of learning to issue in wisdom.



This initial and unwavering commitment to excellence has earned early acceptance for the University within academic circles. Full accreditation came to Brandeis at the earliest possible moment. In 1961, Phi Beta Kappa granted permission for a chapter (Mu of Massachusetts) to be formed on its campus. Most recently the Ford Foundation assessed the record and potential of the University and buttressed their belief in its future with two major challenge grants to Brandeis for academic excellence, an accolade accorded to only five universities in the nation.

University Organization

Brandeis is one of the few small universities in the United States. The academic programs, described below, are each limited in size to encourage quality and integrity of intellectual achievement. There is constant interaction between college, graduate and professional schools, and institutes. The accomplishments of one set automatic pace for the others, and the interchange benefits all, creating an intellectual environment of decided vitality. Additionally, the organic richness of the extensive research activity fertilizes the undergraduate roots of the institution no less than the graduate and professional programs.

The College of Arts and Sciences

In keeping with its general objectives, Brandeis attaches the greatest of importance to the liberal arts curriculum. It is designed to offer full academic opportunities for those students planning to pursue graduate or professional studies as well as those whose educational objective is the baccalaureate degree.

The College of Arts and Sciences offers instruction in the Schools of Creative Arts, Humanities, Social Science and Science. Regularly matriculated students pursuing courses of instruction under the Faculty of Arts and Sciences may, upon satisfactory completion of the first year, continue as candidates for the Bachelor of Arts degree.

Established in 1948, full accreditation was received by Brandeis' College of Arts and Sciences from the New England Association of Colleges and Secondary Schools in 1953.

(Full information is available in the catalog of the College of Arts and Sciences.)

The Graduate School of Arts and Sciences

The Graduate School is designed to educate broadly as it trains professionally. It is sensitive to the fact that as specialization increases within society, the traditional boundaries between the Ph.D. and advanced professional degrees are gradually losing their distinctions. It seeks to achieve a spirit of informality, without sacrificing work disciplines.

The Graduate School of Arts and Sciences offers courses of study leading to the master's and doctor's degrees. Graduate areas include Anthropology, Astro-Physics, Biochemistry, Biology, Biophysics, Chemistry, Comparative History, Contemporary Jewish Studies, English and American Literature, History of American Civilization, History of Ideas, Mathematics, Mediterranean Studies, Music, Near Eastern and Judaic Studies, Philosophy, Physics, Politics, Psychology, Sociology and Theater Arts.

The Florence Heller Graduate School for Advanced Studies in Social Welfare

The Florence Heller Graduate School for Advanced Studies in Social Welfare, made possible through the generous grant of the late Mrs. Florence Heller of Chicago, was established at Brandeis University in 1959. The School has two basic educational programs:

1. The doctoral program for experienced social welfare practitioners who have the degree of Master of Social Work, or its equivalent, and experience on a professional level.
2. The pre-doctoral program for students without professional experience leading to the degrees of Master of Social Work and Doctor of Philosophy.

The program of study both for the experienced social welfare workers and beginners leads to the doctorate and is designed to qualify graduates for administrative and consultative roles in established areas of social work, as well as newly emergent areas such as international social work, inter-group organization, labor, industry and government. Emphasis is placed upon community organization, social work administration and research, making full use of the social sciences.

Students who enter the doctoral program are required to spend two years in residence. Those who enter the pre-doctoral program will receive the degree of Master of Social Work during the period of their doctoral study when they complete the requirements for the Master's degree.

(Full information is available in the catalog of the Heller Graduate School.)

Rosenstiel Medical Science Research Center

The Lewis S. Rosenstiel Medical Science Research Center will coordinate medically oriented work in biochemistry, biology, chemistry, microbiology, psychology, sociology and in the University's Florence Heller Graduate School for Advanced Studies in Social Welfare.

The Center, created through the largest single gift in the University's history, was made possible by Brandeis Fellow Lewis S. Rosenstiel. The Center will draw together Brandeis faculty members whose research work is medically related, without diminishing their teaching responsibilities or altering important research projects already underway. Simultaneously, under the leadership of a Director and the advice of a Faculty Council, the Center will gradually broaden its scope to encourage new research, invite the participation of distinguished scholars and medical scientists, offer hospitality for younger researchers at a fellowship level, sponsor symposia and colloquia, and underwrite scholarly publication.

Mr. Rosenstiel's gift also permits the University to construct a major science facility which will house the Center and offer the scientists working in the Center the most sophisticated and modern scientific equipment and facilities.

At the same time, the Rosenstiel Biochemistry Program, established by the Dorothy H. and Lewis S. Rosenstiel Foundation in 1957, "in support of research in the natural sciences with primary emphasis in biochemistry," will continue undiminished. The program now includes more than 70 graduate and postgraduate research fellows.

Endowed Schools

The Danielsen School of Philosophy, Ethics and Religious Thought

The Albert V. Danielsen School of Philosophy, Ethics and Religious Thought was made possible through a gift from a Fellow of the University from Wellesley Hills, Massachusetts.

The School includes the Department of Philosophy which now combines undergraduate and graduate programs through the M.A. and Ph.D. degrees. The graduate program in philosophy is designed to prepare students for careers in the field as scholars and teachers, and it places traditional emphasis on logic, epistemology, metaphysics, value theory and the history of philosophy. Added to the two fully endowed chairs of philosophy in the School is the Albert V. Danielsen Chair in Christian Thought, and plans are now underway for the establishment of the Pope John XXIII Chair in Catholic Thought.

The Danielsen School thus hopes to encourage the advancement of philosophical thought in the context of contemporary issues, following the broadest scholarly and interdisciplinary approaches in an age of ecumenism and imperative social need.

Fierman School of Chemistry

The Harold and Minnie Fierman School of Chemistry, created through a benefaction from Brandeis Trustee Harold Fierman, incorporates graduate and undergraduate programs, including research activities, lecture programs and colloquia. The American Council on Education has cited the Brandeis program as a national leader in the field of graduate study.

At the undergraduate level the curriculum is highly diversified, including basic courses in analytical, nuclear, organic and physical chemistry, as well as chemical kinetics and structure determination of crystals and molecules.

At the graduate level, M.A. and Ph.D. candidates pursue advanced studies and research projects in quantum chemistry, enzyme reactions and synthetic and theoretical chemistry. Graduate students at Brandeis hold National Science Foundation Fellowships, National Institutes of Health Fellowships and National Aeronautic and Space Administration Traineeships, among others.

The School has been aided, in part, by grants from the Atomic Energy Commission and the National Science Foundation.

The Fisher School of Physics

The Martin Fisher School of Physics was established through a gift from Martin Fisher of New York City, a Fellow of the University. The School is

designed to strengthen the physics curriculum and emphasize both theoretical and experimental physics.

Through scholarship and fellowship assistance provided by Mr. Fisher, teaching and research at the undergraduate, graduate and post-doctoral levels will be enhanced, and a setting provided for lectures, colloquia and scholarly publications produced by the School.

The School's undergraduate program ranges from introductory courses in classical and modern physics, computer sciences and astronomy, to atomic and nuclear physics, theoretical and continuum mechanics, quantum mechanics, high and low energy nuclear, solid state and mathematical physics. M.A. and Ph.D. programs include 12 research courses, courses in astrophysics, atomic and plasma physics, quantum theory of fields and solids and courses in general and special theories of relativity.

Grants from such agencies as the National Science Foundation, the Atomic Energy Commission and the Bureau of Naval Research, among others, support research programs in the Fisher School.

The Kutz School of Biology

The Milton and Hattie Kutz School of Biology was made possible through a gift from the estate of the late Hattie Kutz of Wilmington, Delaware. The School encompasses the University's undergraduate and graduate biology departments. The biology curricula present a comprehensive body of courses that advance from fundamental studies to more complex areas with special heed to new discoveries and the results of current experimentation.

Students are offered a well-conceived balance between traditional background in biology and the thorough discussion of new knowledge constantly developing in this discipline. They are also encouraged to engage in original research and independent study. The biology program, directed and taught by first-rank scientists, also provides research and teaching opportunities for a large number of post doctoral fellows.

A sizable portion of the governmental, industrial and private research grants awarded to the University are devoted to varied projects in biology, including cancer research. Distinguished scientists appear frequently at colloquia and lectures to explain their investigations.

Lown School of Near Eastern and Judaic Studies

Created through the generosity of Philip W. Lown of West Newton, Massachusetts, the Lown School of Near Eastern and Judaic Studies encompasses an intensive teaching and research program in ancient and modern Jewish thought, history, culture and issues, offered by both the undergraduate

and graduate departments of Near Eastern and Judaic Studies. The University has assembled an array of distinguished scholars who offer an extremely broad complex of programs designed to prepare them for scholarly careers or for communal service.

The School includes the Center for Contemporary Jewish Studies, organized for the specific purpose of further research and seminars dealing with major contemporary issues.

The Lown School of Near Eastern and Judaic Studies cooperates closely with the American Jewish Historical Society, whose headquarters building on the Brandeis University campus was completed during 1968.

The Poses School of Fine Arts

The Poses School of Fine Arts, established through a gift from Mr. and Mrs. Jack I. Poses of New York City, embodies the broad undergraduate curriculum in the fine arts. It also incorporates the Poses Institute of Fine Arts, which supplements course-work and workshops in painting and sculpture. Plans for launching a graduate program are now under study.

The undergraduate program in fine arts provides a substantial area of studies in the form and meaning of art from the present day to antiquity. The program stresses individual creativity and the varied techniques of the artist.

The Poses Institute of Fine Arts is host to exhibitions of paintings, sculpture, artifacts and other forms of contemporary and traditional art in the University's museum and many gallery halls. It is the focus of the Brandeis art acquisition program and conducts lecture series and symposia with notable historians, critics and artists. Its annual institutes are concerned with basic issues in the arts and contemporary life.

Related Academic Programs

The Abram L. Sachar International Coordinated Degree Program

The Abram L. Sachar International Coordinated Degree Program was set up by the Trustees in tribute to the twenty years of incumbency of the first President. It is a highly selective program that sends Brandeis graduate and undergraduate students to outstanding foreign universities for up to two years to round out the training that they have had at Brandeis. The program is being modestly initiated in the 1969-70 academic year in about a dozen foreign universities with whom special arrangements have been completed. These include such African universities as Ife in Nigeria; Makerere in Uganda; the University of Ghana in Ghana; Abidjan in the Ivory Coast; Sussex in England; the Hebrew University in Israel; the University of the Andes in Colombia. In succeeding years it is expected that other universities

in various parts of the world will be included in the collaboration arrangements.

The program operates on a variety of levels. For example, a graduate student upon completion of his qualifying examination may pursue his advanced research at a university especially appropriate to his interests. Or an unusually well-qualified undergraduate may obtain permission from his department to spend two years (or a portion thereof) at a foreign university which has offerings not available or not as highly specialized as at Brandeis. Validation for work done abroad depends upon departmental approval. In some cases participation in the program may lead to the awarding of joint or coordinated degrees from both universities.

Although the emphasis of the program is upon students, provision has also been made for occasional special faculty grants to provide opportunities for Brandeis faculty to complete specialized research in foreign universities.

Since the Sachar Scholarship and Fellowship holders continue to be Brandeis degree candidates, they are expected, while overseas, to keep in close touch with their Brandeis academic advisers. At the same time, it is expected that they will work under direct supervision at the foreign university where they are enrolled.

All expenses for the scholarships and fellowships will be underwritten by the Sachar Tribute Fund. Applications for inclusion are to be directed to the Office of International Studies and will be evaluated and processed by a special faculty committee.

Wien International Scholarship and Fellowship Program

The Wien International Scholarship Program, created in 1958 by the Lawrence A. and Mae Wien Fund, is designed to further international understanding, to provide foreign students with opportunities for study in the United States, and to enrich the intellectual and cultural life of the Brandeis campus.

The Program permits the University to offer scholarships and fellowships on the undergraduate and graduate levels. The undergraduate scholarship covers the basic costs of tuition, on-campus board and room, and standard student fees. In some instances, based upon financial need, the grant may be extended to include book allowances, a weekly maintenance allowance, and—on very rare occasions—travel. Awards made for a single academic year to students who are candidates for a degree may be renewed upon application. Renewals may be granted by the Committee on the Admission of Wien Scholars and its decision is final.

Undergraduate applicants may also be accepted as Special Students. Such students must have completed at least the first degree in their home countries.

With the consent of the Director of the Program, they may then take courses at Brandeis which do not duplicate those studied at their home universities. Grants for Special Students are given for only one year and may not be renewed. It is expected that Special Students will apply for this "year abroad" in order to enhance and complement work taken in their own countries, and that these students will return to their home universities when their year at Brandeis has been completed.

All applicants for both the undergraduate and graduate grants must have a thorough knowledge of the English language inasmuch as all students study within the regularly organized curriculum. In addition, opportunities are provided for all Wien Scholars to attend special seminars, conferences, and field trips which are planned to provide an understanding of many facets of American society.

The Wien Program participates with Harvard, Boston College, Boston University, and Massachusetts Institute of Technology in the BASIS (Boston Area Seminar for International Students) summer orientation program which is open to students who have been admitted to these universities. This program facilitates the adjustment of foreign students to American academic communities. Foreign students also have the privilege of participating in a program-oriented, home-stay schedule of visits and hospitality developed through the Wien Office.

Inquiries concerning the undergraduate program should be addressed to the Wien International Scholarship Program at the University and should contain a brief resumé of the applicant's scholastic background and field of interest. Inquiries concerning the graduate program may be addressed either to the Wien Office or to the Graduate School itself.

Jacob Hiatt Institute in Israel

The University conducts an annual semester Institute in Israel. Open to college and university juniors and selected seniors who have completed introductory courses in political science, sociology, or social psychology, the Institute offers instruction in modern Jewish and Israel history, Israel political and social institutions and the Hebrew language.

Made possible by Mr. and Mrs. Jacob Hiatt of Worcester, Mass. the Institute, which is located in Jerusalem and directed by Brandeis faculty, is unique in that it emphasizes first-hand investigation. Formal classroom work is supplemented by seminars with persons prominent in Israel's political and economic life, and field work is conducted at on-the-spot locations.

Enrollment in the Hiatt Institute is also open to a limited number of qualified students from other colleges and universities. Among the colleges and universities, in addition to Brandeis, from which students have come to study at the Jacob Hiatt Institute are: Antioch, Boston University, Brooklyn

College, Brown University, Bryn Mawr, University of California, City College of New York, Carleton, Clark, Colby, Cornell, Dickinson, Goucher, Harvard, Hunter, University of Illinois, Jackson College (Tufts University), Massachusetts Institute of Technology, Oberlin, Ohio State, University of Pennsylvania, Reed, Temple, Vanderbilt, University of Vermont, Washington University, Wayne State, Wesleyan and University of Wisconsin.

Robert and Jean Benjamin Center for International Studies

Underwritten by Robert S. Benjamin, board chairman of United Artists Corporation, the Center for International Studies will support both teaching and research. It will embrace undergraduates, graduate students, resident faculty, visiting scholars and experts.

The Center's primary function will be to serve as the organizing instrument for teaching and research focusing on selective themes of scholarly importance to international studies and to the pursuit of peace.

The Center will devote itself to the theme of the international consequences of modernization in terms of a variety of topics. Any topic chosen will be explored in a number of ways.

The first and constant objective will be to combine teaching and research in a way that will benefit and stimulate teachers, graduate students and undergraduates alike.

The daily operation of the Center will be the responsibility of a director and a board of faculty advisers. The advisers will be drawn from the various departments that are most concerned with international affairs.

Lemberg Center for the Study of Violence

The Lemberg Center for the Study of Violence was organized to provide, within a scholarly setting, major research and training in the problems of violence and to establish a forum for a continuous dialogue that will reach out to all segments of the community. The staff of the Center, which is an outgrowth of the University's three national conferences on violence, seeks to analyze the legal, psychological, psychiatric and sociological aspects of violence and hopes to develop techniques for its control. The initial research activities of the Lemberg Center have dealt primarily with the causes of racial violence in fourteen major American communities.

Established through a generous benefaction of Mr. Samuel Lemberg of New York City, the Center has subsequently received substantial research grants from the Ford Foundation and the National Institutes of Mental Health.



The Morse Center for the Study of Communication

The principal function of the Morse Center for the Study of Communication is to further the art of communication in the services of higher education, and to explore ways of better using mass media with particular emphasis on international relations, government, social welfare and related areas. The Center is also concerned with the potentialities that have opened through television and radio, film and computer technology that will allow not only the transmission of knowledge but its creation and perpetuation.

Amongst programs previously undertaken have been annual quantitative studies of the programming content of American educational television (ETV) multi-national mass communication study programs for representatives of newly emerging nations in cooperation with the United States Department of State.

The Center is primarily underwritten by a major grant from Lester S. and Alfred L. Morse of Boston.

The Sarah and Gersh Lemberg Nursery School

The Lemberg Laboratory-Nursery School was established, as a unit of the Psychology department, in the fall of 1961 through the generosity of Samuel and Lucille Lemberg. Both indoor and outdoor facilities and equipment accommodate some 30 youngsters. Brandeis students enrolled in the education sequence, and students from Tufts University and Wheelock College, serve as practice teachers.

Professorships and Lectureships

Jacob Ziskind Professorships

To implement its philosophy of education, the University brings to the campus distinguished academic figures from sister universities both in the United States and abroad who serve as Ziskind Visiting Professors. This program, made possible by the Jacob Ziskind Endowment Fund, enables the

University to supplement its regular teaching staff with the presence of academicians drawn from other major streams of educational thought. Inclusion of distinguished foreign academicians serves to challenge and stimulate faculty and students with the introduction of new concepts and new educational viewpoints, thus strengthening the entire educational process.

Louis Dembitz Brandeis Memorial Lecture

The annual Louis Dembitz Brandeis Lecture, named in memory of the late Supreme Court Justice, traces its origin to the very beginning of the University's life and is presented under the auspices of the Maurice Bernstein Memorial Fund.

Abba Eban Lectureship

Through the generosity of the late Nathan Straus, this endowment permits an annual lecture by a statesman or scholar on some phase of Middle Eastern affairs.

Harold Sherman Goldberg Annual Lectureship

Established to honor the late Harold Sherman Goldberg, a Fellow of Brandeis, the annual lecture brings to the campus a leader in one of the fields of government, the humanities, fine arts, the sciences or social sciences. The fund was established by Mrs. Romayne Goldberg, other members of the family and his friends and associates.

Harry B. Helmsley Lecture Series

Established to reduce barriers that separate different races, creeds and nationalities, this annual public lecture series has, since its inauguration, featured leading philosophers, educators, government officials and religious leaders in discussions and seminars that relate to intergroup understanding.

Sidney Hillman Memorial Lecture

The Sidney Hillman Memorial Lecture in Public Concern was established by the Sidney Hillman Foundation, Inc., of New York City to create annually, in memory of the late labor leader, a sound and constructive platform which will benefit the broad society and serve an important public cause.

Adolph Ullman Memorial Lecture Series

Established by devoted friends of the late Boston philanthropist and former member of the Brandeis Board of Trustees to pay tribute to a gifted patron of the creative arts. This annual lecture series presents distinguished artists, critics and historians.

The Martin Weiner Distinguished Lectureships

The income from this endowment fund permits the designation of several Weiner Distinguished Lecturers each year. Lecturers receiving these appointments are selected not only from the academic world, but also include figures drawn from the fields of religion, government, international affairs, letters, science and the business world. The Weiner Distinguished Lecturers enrich the University's curriculum by participating in regular academic seminars and symposia and, in addition, University convocations and public events.

Stephen S. Wise Memorial Lecture

This annual lecture was established by the late Nathan Straus to bring to the University each year a distinguished representative of the liberalism that was basic to the outlook of Dr. Wise.

George and Charlotte Fine Endowment Fund

Created to supplement chamber music programs given under the auspices and direction of the Department of Music, the Fine Endowment Fund makes possible the engaging of visiting artists to perform with members of the Brandeis faculty.

Special Academic Programs

Rogoff Foundation Trust

The Rogoff Foundation Trust, a major gift established by the trustees of the Rogoff Foundation Inc., provides support for scholarships, fellowships, study or research in the pre-medical or medical sciences, or related life sciences.

American Jewish Historical Society

In the established pattern of learned groups which elect to locate at colleges and universities, the American Jewish Historical Society is housed on the Brandeis campus as a separate and autonomous organization. It provides, however, a focus for scholarly research, symposia, and a common meeting ground for interested undergraduate and graduate students, international figures and for the work carried forth at Greater Boston's many libraries, museums, colleges, and universities: thus enriching both Brandeis and the Society. Its site near both the University library and its Judaic center was made available by Brandeis. The building funds were provided by the late Lee M. Friedman, a former president of the Society, attorney and Boston resident.

Lowell Institute Cooperative Broadcasting Council

Brandeis University is a member of the Lowell Institute Cooperative Broadcasting Council, which sponsors the educational radio station WGBH-FM and Boston's educational TV station WGBH-TV, Channel 2. Brandeis, along with Boston College, the Boston Symphony Orchestra, Boston University, Harvard University, Lowell Institute, MIT, the Museum of Fine Arts, the New England Conservatory of Music, Northeastern University, Museum of Science, Simmons College, Yale University and Tufts University, makes its teaching facilities available for use by WGBH-FM and its television affiliate, WGBH-TV. One of the significant programs of the University's educational broadcasting is "The Prospects of Mankind," organized by the late Mrs. Eleanor Roosevelt, which appeared on both educational and commercial TV stations in the United States and abroad. This program was sponsored by the National Educational Television Center and was produced by WGBH-TV in cooperation with Brandeis University.

Edith Barbara Laurie Theater Arts Trust Fund

Established by Mr. and Mrs. Irving Laurie in memory of their daughter, the Edith Barbara Laurie Theater Arts Trust Fund aids in the support of the University's respected theater arts program. The funds provided in this gift avail the development and strengthening of the theater arts curriculum and its frequent stage presentations.

Dretzin Living Biographies Program

The techniques of modern electronics, the documentary and the perceptive historian have been combined in *Living Biographies*, an imaginative approach to recording the memoirs of intellectual and other public personages who influence the thought and events of their times. The program is underwritten by Samuel C. Dretzin of New York, a Fellow of the University. *Living Biographies* are video-taped and filmed interviews that serve as historic documents for advanced scholars and undergraduates. The program seeks its subjects everywhere in the world and many notable figures in all facets of public life, the professions, business, arts, sciences and education are participating in the interview program. Among those recently taped are David Ben-Gurion and Carlos P. Romulo. Also participating are Jomo Kenyatta and Julius Nyerere.

Gordon Grant Fellowships

A subsidy from the James Gordon Grant for Government of Chicago has permitted the Department of Politics to develop a special doctoral dissertation program providing Fellowships to selected qualified candidates for the Ph.D.

degree in Politics. To be eligible, students must have completed their first year graduate work, either at Brandeis or elsewhere. The Fellowship awards are limited to individuals whose dissertations deal with approved topics within the fields of American urban and/or local political problems. Fellowships may be held for one or two years. The subsidy also provides research funds, summer stipends, and travel money for field work or investigation in connection with preparation of the dissertation.

Brandeis University Creative Arts Awards

The establishment of the Brandeis University Creative Arts Awards was announced by the University during 1956. Awards are presented annually in the areas of Theater Arts, Music, Poetry or Fiction and Painting or Sculpture. In each of these fields of the arts, two types of awards are bestowed. Achievement medals are conferred upon successful artists for outstanding accomplishments during the year; and grants-in-aid are awarded to young talented persons, in recognition of their creative ability and encouragement for future study and training. Special juries are appointed annually in each of the fields to judge the competition. Winners of the 1969 Awards were:

Music: *Medal*, Ernst Krenek; *Citation*, Henry Weinberg

Literature: *Medal*, Leonie Adams; *Citation*, Galway Kinnell

Painting-Sculpture: *Medal*, Jose De Rivera; *Citation*, Mark Di Suvero

Theater: *Medal*, Boris Aronson; *Citation*, The Negro Ensemble Company

Notable Achievement: Lewis Mumford

Office of Adult Education

To provide adults with the opportunity to pursue courses of instruction in areas of particular interest to them, the Office of Adult Education sponsors daytime seminars, and evening lecture courses, all directed by members of the Brandeis faculty, and all consistent with the quality of Brandeis academic offerings. In addition, the office plans and presents a variety of special public lecture programs throughout the academic year.

Summer Institutes for Adults

The Summer Institutes for Adults seek to broaden the University's academic scope by offering a unique residence program to adults from all sections of the country. Participants may spend either one or two weeks of intensive, uninterrupted study, directed by Brandeis faculty members and supplemented by guest lecturers, on topics broadly concerned with the problems and trends of contemporary civilization.

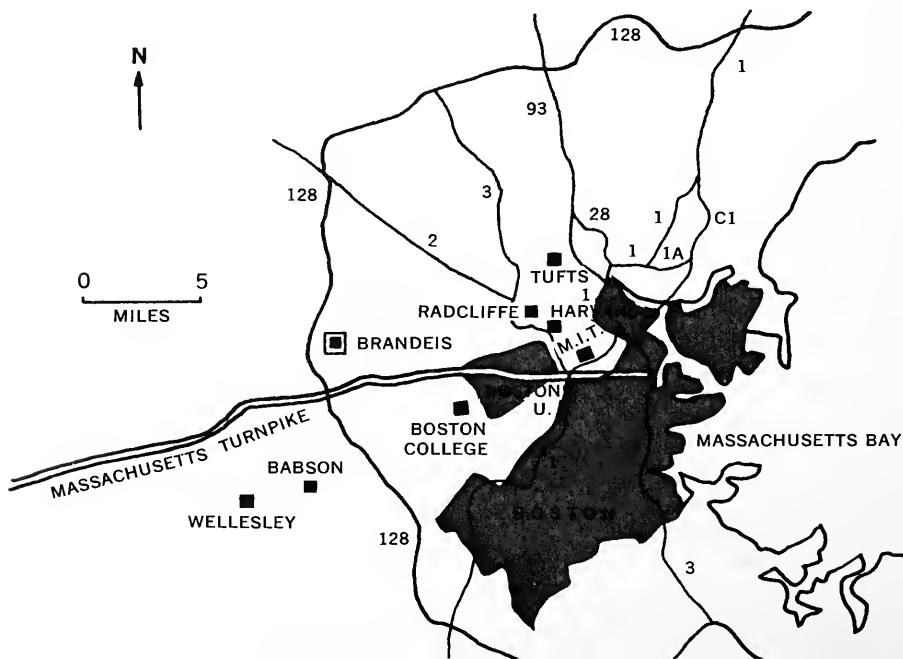
General Description

Brandeis University, on the southwest outskirts of Waltham, Massachusetts, is ten miles west of Boston, adjacent to Wellesley and near historic Lexington and Concord.

From the eastern Charles River boundary, University grounds sweep upward to New England's famed Boston Rock, where Governor Winthrop and his Massachusetts Colony explorers first surveyed the region that is today Greater Boston.

By automobile, the campus may be reached as follows: *From the south and west* take Exit 14 of the Massachusetts Turnpike and follow signs to Route 128 North, then Exit 51, left turn at end of exit ramp and follow signs to Brandeis. *From the north*: Route 128 south to Exit 51, then follow signs. *From Boston*: Massachusetts Turnpike Extension to Exit 15, follow signs towards Route 30 and Weston, right turn at Route 30, left turn at traffic light; or follow Commonwealth Avenue (Route 30), until the intersection just west of the Route 128 overpass; follow signs to Brandeis.

By public transportation: The campus is adjacent to the Roberts Station of the Boston and Maine Railroad (West Concord Line), from which trains run on a frequent schedule to and from downtown Boston (North Station) and Cambridge. Rapid Transit facilities terminate at the Riverside Station of the Massachusetts Bay Transportation Authority (MBTA), 3 miles from campus. Public bus and taxi service operate between Riverside and Brandeis.





Massell Quadrangle

Long distance bus travellers will find that it is much easier to alight at Riverside or Natick rather than Park Square, Boston. All Greyhound through and express buses stop at Riverside. Trailway buses stop at their Natick, Mass., terminal on Speen Street. Train travellers from the South should de-train at Boston, but train travellers from the west should get off at Newtonville, a 20-minute ride from campus on the Roberts bus. From Logan Airport, the easiest route is by taxi to North Station and from there to the Roberts stop (check train schedule first). Rapid Transit is also available from Logan to North Station.

Academic and Administrative Buildings

Abelson Physics Building

Completed in 1965, the Abelson Physics Building houses teaching and research laboratories of the Physics Department. It also includes a major physics lecture and demonstration hall.

Administration Center

Overlooking the main entrance to the campus, the Brandeis University Administration Center houses the offices of the president, vice-presidents, deans, student administration, university administration and the National Women's Committee. Conference room facilities serve the Board of Trustees, faculty and administrative staff. The Center comprises Bernstein-Marcus Administration Center, Gryzmish Academic Center and the Julius and Matilda Irving Presidential Enclave.

Bass Physics Building

A unit of the Science Quadrangle, the Bass Physics Building includes research facilities for the Physics Department as well as departmental offices.

Bassine Biology Center

The Bassine Biology Center houses all of the research activities of the Biology Department. It includes environmental growth chambers and greenhouses in addition to laboratories, laboratory support areas, preparation rooms, and seminar facilities for the use of Biology faculty and research personnel.

Brown Social Science Center

Adjacent to the library, the Brown Social Science Center includes three structures.

The central building houses the Anthropology, Economics and Psychology Departments. It contains classrooms, seminar rooms, faculty offices, laboratories and a small anthropology museum. Glass walls overlook an attractively landscaped quadrangle which the Social Science Center encloses.

Schwartz Hall houses a 300-seat lecture auditorium, classrooms and a spacious lounge. Millions of viewers across the nation have watched television programs recorded in the main auditorium, specially equipped for use as a television studio. The lounge contains a permanent exhibit of Oceanic Art and Ethnographic objects donated to the University by Mrs. Helen S. Slosberg.

Lemberg Hall is the home of the Lemberg Laboratory-Nursery School, operated by the Department of Psychology. Classrooms with specially constructed walls of one-way glass enable students to observe youngsters in the nursery school and to record their development from the observation room. Lemberg Hall also houses the Psychological Counseling Center.

Brown Terrarium

Brown Terrarium, a completely equipped experimental greenhouse, located between the Faculty Center and Sydeman Hall, provides facilities for botanical research.

Dreitzer Art Gallery

Designed as an adjunct to the art exhibition facilities of the University, the Mildred and Albert J. Dreitzer Art Gallery houses special loan exhibitions as well as periodic displays of selected art works from the University's permanent collection.

Lemberg Nursery School





Gerstenzang Science Quadrangle with Ullman Amphitheatre in foreground

Harry Edison Chemistry Building

A center for research in Chemistry, completed in 1965, the Harry Edison Chemistry Building includes laboratories and research offices for faculty, postdoctoral research fellows and other research personnel of the Chemistry Department.

Faculty Center

On the south campus is the Faculty Center, containing club facilities, lounges, the faculty dining room, a private dining room for faculty meetings, and apartments for visiting faculty and lecturers.

Ford Hall

Near the central campus, Ford Hall contains classrooms, laboratories, faculty offices and Seifer Hall, an auditorium seating 500, which is used for lectures, large student meetings, and major conferences.

Friedland Research Center

Joined to Kalman Science Center by an overhead corridor of glass and stainless steel, Friedland Research Center provides four stories of modern laboratories which house research in biochemistry and related life sciences.

Gerstenzang Library of Science

The central structure of the Science Quadrangle is the Gerstenzang Library of Science. This building includes a science library and lecture-demonstration auditoria. The library contains stacks for 250,000 volumes, along with facilities for preparation and use of microfilms, a periodical room and journal reading area, office and other library administration facilities. The lecture-demonstration halls are constructed as amphitheatres, one seating 300 and the other 100. This unit is connected to all other buildings in the University's Science Complex.

Goldfarb Library Building

Near the center of the campus, Goldfarb Library Building is a brick, limestone and glass structure with an ultimate capacity of 750,000 volumes. On the periphery of its open stacks are student study carrels and faculty studies. Seminar rooms are provided for those courses requiring intimate and immediate access to library resources in specific research and reference areas. The library also contains audio-visual aids, specialized reading rooms, typing rooms and lounge facilities. Works of art from the University collection are on constant display in the many galleries of the building.

Golding Judaic Center

Overlooking the campus from the northeast corner of the Academic Quadrangle, Golding Judaic Center contains classrooms devoted to the study of the Near East, Judaics and related subjects. Classrooms and faculty offices ring its large, central lecture hall.

Goldman-Schwartz Art Studios

The Goldman-Schwartz Art Studios provide classrooms, faculty offices and sculpture areas for the Department of Fine Arts and studios for faculty, advanced students and artists-in-residence. Its completion marked a major step in fulfilling the master plan for a unified creative arts enclave extending across the southwest campus.

Goldsmith Mathematics Center

Completed in 1965 as a unit of the Science Quadrangle, the Goldsmith Mathematics Center provides classrooms, seminar rooms, research offices, faculty offices and a mathematics library for the use of the Mathematics Department.

Hayden Science Court

The Charles and J. Willard Hayden Court, comprising several acres in the central campus area, is the site of present and projected science facilities of the University. This area has been set aside as a memorial to two generous benefactors, whose pioneer gift stimulated the extensive scientific programs of the University.

Heller School Facilities

The Florence Heller Building, completed in 1966, houses the administrative, faculty and teaching activities of the Florence Heller Graduate School for Advanced Studies in Social Welfare.

A major research center, the Benjamin Brown Building, provides research offices and work rooms for the multifaceted research programs being conducted by the Heller School.

Kalman Science Center

The University's first structure devoted entirely to science, Kalman Science Center continues to be the key facility in the growth of the University's science facilities. This center contains instructional and research laboratories for the undergraduate School of Science and for the advanced work of the Graduate School of Arts and Sciences.

Kosow Biochemistry Building

A unit of the Biochemistry Research Center located to the east of the existing Friedland Research Center and joined to the building on all floors, this building provides additional modern laboratories where research in Biochemistry and related life sciences is conducted.

Lecks Chemistry Building

Adjoining the existing Kalman Science Center, the Lecks Chemistry Building provides modern laboratories and research spaces for the expanding chemistry research program of the University.

Olin-Sang American Civilization Center

On a hillside overlooking the library and Three Chapels Area, the Olin-Sang American Civilization Center provides unique seminar-classroom halls which include display areas for the placement of original manuscripts and source materials relating to the courses offered. Included are the Diplomatic Studies, Human Rights, Lincoln, Presidential, Washington, Judicial, Legislative, Ethnic Studies and Slater Halls. The Shapiro Forum, which is the building's lecture auditorium, is patterned after the United Nations General Assembly hall.

Pearlman Hall

A circular lounge, walled in glass, is a unique architectural feature of Pearlman Hall. Its main building contains classrooms and seminar rooms and houses the Sociology Department.

Pearlman Hall



Rabb Graduate Center

The rapid growth of the University's Graduate School of Arts and Sciences has made it necessary to expand the facilities allocated for Graduate School administrative activities and for graduate teaching in the humanities. The Rabb Graduate Center provides administrative and faculty offices, seminar and teaching rooms and study space for graduate students.

Rapaporte Treasure Hall

Adjacent to Goldfarb Library Building, and joined to it by a glass-enclosed lobby, Rapaporte Treasure Hall is the repository for rare books, incunabula and other library treasures. The upper level serves as the main exhibition area and the lower level stores the University's growing collection and includes a specially constructed vault with provision for the protection of these rare items against the ravages of time, temperature, humidity, fire or theft. Special display areas are built into the Rapaporte Treasure Hall.

Rose Art Museum

Located within the Creative Arts enclave, the Rose Art Museum is the focal point for the University's rapidly burgeoning art collection. On permanent display are portions of the noted ceramic collection of Mr. and Mrs. Edward Rose. Major loan exhibitions are placed on display during the academic year as well as selections from the University's permanent collection. The wishing pool on the lower level is both a pleasant setting for quiet reverie and the objective of coin-tossing students before examinations. During 1969, construction of a major addition to the Rose Art Museum will be started. This addition will include a special room for an expanded permanent display of the art collection of Mr. and Mrs. Rose. There will also be a special print room as well as enlarged administrative and service areas for museum personnel. The expanded Rose Art Museum will be the dominant feature of a substantially enlarged art exhibit area at Brandeis.

Rose Art Museum



Segal Physics Building

A unit of the science research center, the Segal Physics Building includes research offices for theoretical physicists, laboratories for research in physics, and newly developed research areas for investigations in high energy physics.

Shiffman Humanities Center

Atop a hillside where its glass walls reveal spectacular views of the campus and the country north of Boston, Shiffman Humanities Center employs a new academic concept in educational architecture. Original manuscripts, portraits, and source materials related to courses being offered are displayed in the seminar rooms. The latest in electronic language teaching facilities are employed in the building's language laboratory. Included are the Language and Phonetics, English and American Literature, Classics, Philosophy, Renaissance, Germanic and Asian Studies Halls.

Slosberg Music Center

Located at the entrance to the campus, the Slosberg Music Center includes classrooms, practice rooms and office facilities for the Music Department. The Center has its own music library and a recital hall which seats 250 with carefully designed acoustical treatment. Slosberg Recital Hall is the location of the University's rich program of chamber music concerts and solo performances. It also houses the University's baroque organ, given by Mrs. Aber D. Unger of Baltimore, Maryland, as a memorial to her late husband.

Spingold Theater Arts Center

The Spingold Theater Arts Center is a unique and imaginative concept translated into exciting design. With a theater auditorium as its hub, the circular Center includes areas for every facet of the teaching and performing arts; workshops, design rooms, costume preparation and storage areas, rehearsal and dressing rooms, a little theater and a dance studio. Spacious areas are equipped as classrooms and offices, and the great lobby has been envisioned for displays of painting, sculpture and other treasures. The Center's location on the southwest campus places it at the hub of Brandeis' creative arts teaching facilities.

Sydeman Hall

This annex to Ford Hall houses laboratories, classrooms, faculty offices and the University's Computer Center.

Ullman Amphitheatre

Utilizing a natural bowl below the science buildings, the Amphitheatre has a complete stage with full lighting equipment and orchestra pit, classrooms and faculty offices. It is the colorful setting for University convocations and commencements. The University's Communications Institute is housed in the Ullman Amphitheatre.

Wolfson-Rosensweig Biochemistry Building

A unit of the Biochemistry Research Center located to the east of the existing Friedland Research Center and joined to that building on all floors, this building provides additional modern laboratories where research in Biochemistry and related life sciences is conducted.

Athletic Facilities

Memphis Tract

A twenty-six acre area on the east edge of the campus, Memphis Tract contains the Shapiro Athletic Center, Marcus Field, Gordon Field and Rieger Tennis Courts.

Spingold Theater Arts Center



Gordon Field

One of the nation's most modern tracks rings Gordon Field where the University's track and field squad plays host to teams from throughout the east. The central area provides playing fields for the University's intramural football teams and specialized accommodations for intercollegiate field events.

Linsey Sports Center

The Joseph M. Linsey Sports Center includes an Olympic-size swimming pool, squash courts, fencing room and other athletic teaching facilities. Connected to the athletic center, the sports center provides facilities for substantial enhancement of the University's physical education and intercollegiate athletic programs.

Marcus Playing Field

Brandeis' international student body has won respect for its soccer prowess on Marcus Playing Field, which also contains the varsity and practice baseball diamonds and a softball diamond.

Shapiro Athletic Center

Throughout the school year the main gymnasium operates day and night with varsity and intramural competition as well as physical education activities. The gymnasium is also used for public lectures, student dances and major conferences. In addition, classrooms, offices for the physical education faculty, team, and physiotherapy rooms and dressing rooms are included in Shapiro Athletic Center.

Rieger Tennis Courts

The Rieger Tennis Courts are the scene of informal as well as intramural and intercollegiate tennis competition. They are located to the rear of the Shapiro Athletic Center.

Residence Halls

Campus living accommodations consist predominantly of double rooms, some single rooms and larger quarters. Each residence hall has its own lounge or lounges. Modern laundry and other conveniences are available to all students. Each resident student should bring blankets, lamps and such rugs and decorations as are desired. Arrangements for linen and towel service may be made through the University.

East Quadrangle

The East Quadrangle residence halls include Hassenfeld House, Rubenstein Hall, Pomerantz Hall, Krivoff House and Shapiro Brothers Hall. A large central lounge serves all of these buildings, and the entire area is complemented by the Benjamin and Mae Swig Student Center which includes a dining hall and lounge facilities.



Leon Court

Leon Court, a residence area, has four dormitories and a large student center-dining hall grouped around an attractive, wooded quadrangle. Each dormitory unit contains fully equipped student rooms, a lounge and large recreation room. Dormitories in this quadrangle have been designated the Scheffres, Gordon, Cable and Reitman Halls. The student dining hall is Milton and Hattie Kutz Hall.

Massell Quadrangle

Consisting of Shapiro, DeRoy, Renfield and Usen Residence Halls, and the Sherman Student Center, this is a major housing and recreational area. Each unit has functionally equipped rooms with maximum living and closet space. Ground floor lounges overlook the central quadrangle and the walks encircling Anne J. Kane Reflecting Pool.

Ridgewood Quadrangle

Emmerman, Fruchtmann, Danciger, Allen and Rosen Residence Halls comprise the University's living areas for students on the south campus. Each hall has two lounges opening on the quadrangle.

Rosenthal Dormitories

Adjacent to the Massell Quadrangle, are three new dormitories, completed in 1968, which accommodate 168 students. This grouping of buildings has been underwritten by Mr. and Mrs. David Rosenthal of New York City.

The Usen Castle

An imposing structure designed after medieval architecture and completed a decade before Brandeis was founded, the Irving and Edyth Usen Castle has been remodelled into single, double, and larger rooms for women. Its ground floor houses the University Snack Bar and the student-operated coffee shop, *Cholmondeley's*. On the second level of the Usen Castle, is the Usen Commons, a circular, conservatory style lounge, used for dances and social functions. Greater Boston spreads out in a panoramic view from the windows of Usen Commons.

Schwartz Residence Hall

This companion structure to the Castle houses women. Its lounge, a retreat for reading, relaxation and entertainment, is furnished in contemporary style.

Casty House

Located in Weston, Massachusetts, a few minutes from the campus, is Casty House, residence of the President of the University. The 25-room Tudor mansion was originally gifted to the University by the late Mrs. Boice Gross and was recently renovated and will be maintained through a gift from Mr. David Casty, a Fellow of the University.

Student Centers

Sherman Student Center

The glass walls of Sherman Student Center rise from the ground level to roof, overlooking Massell Quadrangle and the Kane Reflecting Pool. Its ground floor dining hall serves several hundred students daily and is frequently utilized as a banquet hall for major University functions. Along the upper level are located a large lounge, game room and two smaller dining rooms. Bulletin boards of these rooms serve as the major communications center for student activities and the walls frequently are hung with special art exhibits. Dances, parties and meetings often occupy the entire building on busy evenings.

Feldberg Lounge

Spacious and comfortable, this glass and brick walled lounge is used for informal discussions, lectures, songfests and conferences and is a favorite meeting place between classes. Works of art by student and professional artists are on constant exhibit.

Kutz Hall

A towering ceiling, attractive furnishings, a site overlooking Greater Boston, make Kutz Hall a versatile and popular student dining hall. Banquets seating 500 are held on its main floor. An outdoor terrace and commodious balcony provide unusual settings for receptions and student social activities. Folding walls under the balcony permit creation of private rooms for dinner meetings of student or faculty groups. The towering north wall of Kutz Hall mirrors the rest of Leon Court in its more than 8000 square feet of glass.

Swig Student Center

The attractively furnished Swig Student Center, in the East Quadrangle, provides dining facilities for students as well as lounge and terrace for student receptions and social activities. It also includes a private dining room for dinner meetings of student groups. The Swig Student Center is connected to the dormitories of the East Quadrangle by an overhead walk.

Mailman Hall

This striking glass, brick and granite structure provides spacious lounges, modern recreational rooms and facilities for the display of painting and sculpture. A recently completed addition to this building includes student publication offices, the campus radio station, offices and meeting rooms for the Student Council and other student organizations. Designs are now being completed for enlarging Mailman Hall and transforming the facility into a University mental health and psychological counseling center.

Dining Halls

University dining halls are located in Kutz Hall, Swig Student Center and Sherman Student Center. A separate kitchen is maintained in Sherman Student Center for those wishing special dietary meals. In addition, light refreshments are provided in the Castle Snack Bar and *Cholmondeley's*.

Stoneman Infirmary

On the forward slope of the campus, near the Castle, the Infirmary houses a first aid treatment room, lounge, out-patient clinic, four consulting suites, and rooms for twenty-four bed patients.

The Three Chapels

Assuming that worship is a matter of mood and spiritual climate, not limited to words or ceremonies, the University's Harlan, Berlin and Bethlehem Chapels serve the Protestant, Jewish and Catholic faiths. A centrally located pulpit serves a large outdoor area where shared functions are celebrated. Student organizations responsible for services are the B'nai B'rith Hillel Foundation, Newman Club and Student Christian Association. Each has its own chaplain.

Maintenance Funds

As the University's physical plant expands, the costs of maintaining buildings and grounds impose increasingly on its general fund resources. However, funds to help meet these costs have been made available through the generosity of individuals and foundations.

Louis D. Beaumont Foundation Fund

The Louis D. Beaumont Foundation of Cleveland, Ohio, has provided funds for general purposes, including maintenance, since the early years of the University.

Harry Pearlman Endowment Fund

A portion of a major gift to the University by Harry Pearlman of New York, has been directed to building maintenance.

David and Irene Schwartz Fund

Under provisions of a special grant from David and Irene Schwartz, funds have been provided for a systematic landscaping of the campus to achieve a harmony between the terrain's natural beauty and the building architecture as conceived and executed by some of the nation's noted architectural figures.

Facilities Projected and Under Construction

Coffman Residence Hall

Brandeis Fellow Max Coffman of Brockton, Mass., has established a fund which will enable the University to expand dormitory space in the future to keep pace with expected growth of the student body.

Epstein Campus Service Center

Underwritten by Mr. and Mrs. Rubin Epstein of Chestnut Hill, Massachusetts, the Epstein Campus Service Center will house several administrative departments of the University, including the Purchasing Department, the Buildings and Grounds Department, the Security Department, and the University's major service facilities, including repair and maintenance shops and stock and storage areas.



Pollack Fine Arts Teaching Center

The expanded art teaching program at the University has made it necessary to provide additional facilities. The Maurice Pollack Fine Arts Teaching Center will include studio space for the artist-in-residence, a specially designed lecture hall for teaching art history, a multi-purpose studio and photo study room, and additional faculty offices. This center will be located between the existing Goldman-Schwartz Art Teaching Center and the expanded Rose Art Museum. It has been planned as a major link between the art teaching and art exhibit areas. Construction will start in 1969. The Pollack Center is a gift of the Pollack Foundation of Quebec City, Quebec, Canada.

Sachar International Center

Being planned is a center for housing all of the University's International programs. The Center, conceived as a tribute to Dr. Abram L. Sachar, first President of Brandeis University, will include classrooms, meeting rooms, a lecture hall, a library-lounge facility, administrative office spaces for all international programs, visiting faculty offices, and the office of the Chancellor of the University. Underwriting for this facility has been provided by gifts from a large number of individuals all made as tribute to Dr. Sachar. The lecture hall has been underwritten by Mrs. Evelyn Silver of Northboro, Massachusetts.

Spingold House

Located in New York City, Spingold House, a gift of Mrs. Frances Spingold is currently being renovated as a base of operations in New York City for the National Women's Committee, the Alumni and the Parents' Association. The Spingold House will also include offices for the President and other University staff when in New York City.

Usdan Student Union

Scheduled for completion in 1970 is a Student Union complex which will consolidate student social and recreational facilities in a central location in mid-campus close to major teaching facilities and residence halls. The Student Union complex will consist of a main structure housing such facilities as an assembly and banquet hall, the University bookstore, mailroom, bowling alleys, lounges and food service areas. Other components will house student organizations, student social and recreational areas, and student service offices. The main building of the Student Union has been underwritten by Mr. and Mrs. Samuel Lemberg of New York in honor of their daughter and son-in-law, Mr. and Mrs. Nathaniel H. Usdan. In addition to the main building, the Usdan Student Union will include the Gluck, Rudnick, Winer and Wuliger Wings and the Faneuil Recreation Hall.

Yalem Art Gallery

Scheduled for construction start in 1969, the Charles Yalem Art Gallery has been designed to supplement the existing art exhibition areas of the University. With specially designed hanging areas, lighting and exhibit features, this Gallery will be the area in which many exhibits of modern art will be housed. There will be direct connection from the Yalem Gallery to an expanded Rose Art Museum, providing the opportunity to view several exhibits during any visit to the University's Museum.

RABBI GRADUATE CENTER



The Graduate School of Arts and Sciences



General Information

History and Organization

The Graduate School of Arts and Sciences was formally established in 1953 when the University Board of Trustees authorized graduate study in the Departments of Chemistry, Music, Psychology and Near Eastern and Judaic Studies. The first Master of Arts degree was conferred in 1954; the first Master of Fine Arts degree, in 1954; and the first Doctor of Philosophy degree in 1957.

The general direction of the Graduate School is vested in a Graduate Council of the Faculty composed of the President and the Dean of Faculty, ex officio; the Dean of the Graduate School; and one representative, usually the chairman, of each of the several University departments and committees offering graduate instruction. The members of the Graduate Council are appointed by the President on the recommendation of the Dean of the Graduate School. The functions of the Graduate Council, exercised in consonance with University policy, are to determine requirements for admission; to provide programs of study and examinations; to establish and maintain requirements for graduate degrees; to approve candidacy for degrees; to make recommendations for degrees; to make recommendations for new areas of graduate study; to lay down such regulations as may be considered necessary or expedient for governing the Graduate School; and to exercise a general supervision over its affairs. The Dean of the Graduate School is the chairman of the Graduate Council and the chief executive officer of the Graduate School.

Objectives

The underlying ideal of the Graduate School is to assemble a community of scholars, scientists and artists, in whose company the student-scholar can pursue study and research as an apprentice. This objective is to be attained

by individualizing programs of study, restricting the number of students accepted, maintaining continual contact between students and faculty, and fostering the intellectual potential of each student.

Degrees will be granted on the evidence of intellectual growth and development, rather than solely on the basis of formal course credits. Fulfillment of the minimum requirements set forth below cannot, therefore, be regarded as the sole requisite for degrees.

Areas of Graduate Study

During the academic year 1968–69, graduate programs will be offered in the following areas:

- | | |
|-------------------------------------|-------------------------------------|
| 1. Anthropology | 11. Mathematics |
| 2. Biochemistry | 12. Mediterranean Studies |
| 3. Biology | 13. Music |
| 4. Biophysics | 14. Near Eastern and Judaic Studies |
| 5. Chemistry | 15. Philosophy |
| 6. Comparative History | 16. Physics and Astrophysics |
| 7. Contemporary Jewish Studies | 17. Politics |
| 8. English and American Literature | 18. Psychology |
| 9. History of American Civilization | 19. Sociology |
| 10. History of Ideas | 20. Theater Arts |

Details of the programs and courses offered in these areas are given below.

Graduate study in Social Welfare is offered by the Florence Heller Graduate School for Advanced Studies in Social Welfare. For further information see the catalog of the Heller School.

Graduate School Office

The Graduate School office is located in the Rabb Graduate Center. The office is open Monday through Friday from 9 A.M. to 5 P.M. All requests for information, catalogs and application forms should be addressed to the Dean of the Graduate School of Arts and Sciences, Brandeis University, Waltham, Massachusetts 02154.

Housing

The University does not have on-campus housing for graduate students. The Off-Campus Housing Bureau, located in Ford Hall, attempts to serve as a clearing house for rooms, apartments and houses available in Waltham and near-by Greater Boston communities.

Dining Facilities

Graduate students may sign for either the twenty-one or the fifteen-meal contracts in either Kutz Hall or the Sherman Student Center Dining Hall. Arrangements must be made with the Steward's Office. A separate kitchen is maintained in the Sherman Student Center for those wishing kosher meals. Individual meals may be purchased at either dining hall. Light snacks are served at the Castle Snack Bar.

Office of International Programs

This office administers the Wien International Scholarship Program, the largest privately endowed foreign scholarship program in the United States, and serves as the counseling center for the more than one hundred students who come here from Asia, Africa, Europe and South America. It advises students of special social and educational activities and provides assistance in fulfilling the legal procedures required by the U. S. Immigration Service in obtaining working permits and documents necessary for extended periods of study, and in other technical matters which may arise. (See page 18)

In addition, the office provides the Brandeis community with information on academic opportunities abroad such as Fulbright grants for graduate students and faculty, the Watson Fellowships and Rhodes Scholarships for seniors being graduated, the Abram L. Sachar International Coordinated Degree program (see page 17), and the Jacob Hiatt Institute for study in Israel. American students wishing to study abroad on university accredited programs should consult this office.

University Health Services

The Director and his staff are responsible for providing for the physical and emotional well-being of students. Payment of the Health Fee entitles students to services available at the David A. Stoneman Infirmary and at the Mental Health Center located in Lemberg Hall. In addition, the student is entitled to participate in the Student Health Insurance Plan. Except for limited day-care facilities, the Health Services and the use of the Infirmary are available to students only during the period in which the University is in regular academic session.

Prospective students planning to matriculate in the College and the Graduate Schools are responsible for the submission of a Health Examination Report completed by their family or personal physician. In addition to information about previous health and details of the physical examination, evidence of immunization against smallpox and tetanus are required. If possible, protection against poliomyelitis is desirable. Since students may not register until these requirements have been satisfied, it is strongly urged that reports be submitted by July 1.

The Student Health Insurance Plan helps to defray expenses for a period of one year, commencing September 1, for care situations which are beyond the scope of the Health Services. A brochure outlining the details of the Plan as well as the services offered by the University Health Services is distributed to each student prior to registration. Students are urgently requested to read this brochure and keep it for reference. Whereas situations not covered within the Health Services or by the Insurance Plan are infrequent, an awareness of these possibilities will tend to lessen misunderstanding and disappointment. In such instances, students will be responsible for expenses which are not covered by the University's health program or its associated insurance policy.

Within the limitations of the insurance coverage, fees of physicians who are not members of the Health Services staff, laboratories and hospitals will be processed for payment only when consultations, laboratory or x-ray studies or hospitalization have been authorized by the University Health Services in advance on a form provided for this purpose. The University is not responsible for off-campus medical and hospital care sought by students or their parents on their own initiative, or for outside care or consultation which has not been authorized previously by the Health services. The only exception to this is in case of an emergency, or illnesses or injuries occurring while away from the University, when such prior authorization is not feasible.

The Mental Health Center

The Mental Health Center, which is a part of the University Health Services, is located in Lemberg Hall. It provides professional assistance to students who have personal or emotional problems. Those who wish such help may refer themselves directly to the Center. Their communications with the staff are held in strict confidence.

Admission

As a rule only well-qualified men and women who have completed the normal four-year program leading to the Bachelor's degree will be considered for admission to the Graduate School. Graduates of foreign schools and others who have completed the equivalent of a Bachelor's degree program may apply, describing the educational program they have completed.

Testing

Applicants for admission to the graduate programs in biochemistry, biophysics, history of American civilization, politics and psychology are required

to take the Graduate Record Examination, including the aptitude test portion and preferably one advanced test in a field related to the proposed area of graduate study. Applicants for admission to the graduate program in psychology must also take the Miller Analogies Test. All other applicants for admission are urged to take the Graduate Record Examination. In order for the results of the Graduate Record Examination to be considered, the applicant should take the examination no later than January preceding the academic year for which application is made. Information concerning the Graduate Record Examination is available from the Educational Testing Service, 200 Nassau Street, Princeton, New Jersey 08540, or 1947 Center Street, Berkeley, California 94704.

Foreign students, regardless of field of graduate study, are required to take the Test of English as a Foreign Language (TOEFL) unless English is their first language. This includes comprehensive testing in auditory comprehension, reading comprehension, writing, vocabulary, and grammar. Applications for admission to the test should be made to TOEFL, Educational Testing Service, Princeton, New Jersey, U.S.A. The test is administered at various established centers abroad.

Application

Specific requirements for each graduate program are to be found under the appropriate headings in this catalog. Each applicant should consult these requirements before filing an application. A student may apply to only one graduate department or program. Applicants to the Graduate School should write to the Dean of the Graduate School of Arts and Sciences, stating which program of study he or she wishes to enter. A catalog and appropriate forms will be forwarded to the applicant. The "Application for Admission" and, if needed, the "Application for Financial Aid" should be completed and returned in duplicate as soon as possible. The closing date for receipt of applications for admission is the first business day in March, though exceptions may be made. Applicants requesting financial aid should file as early as possible.

Applications for admission for the Spring Term must be filed by December 15. Students are not usually admitted at midyear, and those who do gain admission are not normally eligible for financial aid.

The applicant must arrange to forward, *in duplicate*, official transcripts of all undergraduate and graduate work. In addition, he must have forwarded, on forms provided by the Graduate School, two letters of recommendation, preferably from professors with whom the applicant has studied in the field of his proposed area of study. An applicant who has engaged in graduate study elsewhere should request at least one of the recommendations from a professor with whom he has done graduate work.

Applicants for admission to the following graduate programs must also submit samples of their written work as indicated:

Comparative History—one paper, preferably in European history
English and American Literature—two samples of written work
Music Theory and Composition—samples of original work
Theater Arts—Dramatic Writing—one original script
Theater Arts—Design-Technical—a portfolio of sketches

All applications for admission must be accompanied by an application fee of \$15, payable by check or money order to Brandeis University. No application will be processed until this fee is paid.

Admission Procedure

All applications are considered on a competitive basis. The number of students admitted each year in each department is limited so that the Graduate School may operate effectively under its distinctive principles of individualized study and apprenticeship. Consequently, admission may sometimes be denied to qualified persons. Meeting the minimum standards of admission merely qualifies the applicant for a place in the group from which final selections will be made. Selections are based on the applicant's ability to do graduate work of high quality, as shown by: the distinction of his previous record, particularly in his proposed area of study; the confidential letters of recommendation submitted in support of his application; and his adaptability to the particular graduate programs offered by Brandeis University. In addition, knowledge of foreign languages, relevant practical experience in the field, samples of work, the results of the Graduate Record Examination, and indications of character are considered.

Each application for admission with all supporting records is first examined by the department or committee responsible for the graduate program to which the applicant seeks admittance. The department or committee recommends to the Dean of the Graduate School which applicants should be selected for admission and for financial aid. The Dean reviews all applications in the light of departmental recommendations, and informs each applicant of the results of the competition. Applicants for admission will be notified in April.

Acceptance

A student who has been accepted for admission to the Graduate School will be notified by a letter specifying the date by which he must accept the offer of admission and awards, if any. If a student selected for admission indicates

that he does not intend to accept the offer, or if he fails to reply by the date specified, his admission offer becomes void and another applicant may be accepted in his place.

Brandeis University subscribes to the "Resolution Regarding Scholars, Fellows, Trainees and Graduate Assistants" of the Council of Graduate Schools in the United States. The resolution states:

"Acceptance of an offer of a graduate scholarship, fellowship, traineeship, or graduate assistantship for the next academic year by an actual or prospective student completes an agreement which both student and the graduate school expect to honor. In those instances in which the student indicates his acceptance prior to April 15 and subsequently desires to change his plans, he may submit in writing a resignation of his appointment at any time through April 15 in order to accept another scholarship, fellowship, traineeship, or graduate assistantship. However, an acceptance given or left in force after April 15 commits him not to accept another appointment without first obtaining formal release for the purpose."

Students who are accepted must provide the Graduate School Office with an official final transcript of their undergraduate record and of any graduate work in progress at the time of acceptance. In addition, students who are accepted are *required to complete and return a Medical Questionnaire and a health insurance form*, which will be sent with notification of acceptance. All acceptances are conditioned on subsequent approval by the University Health Office. All persons admitted to the Graduate School must give evidence of their physical and psychological capacity to carry on their studies.

If, after having been admitted, a student cannot attend, he should notify the Dean of the Graduate School as soon as possible. If such a student wishes to be admitted for a subsequent academic year, he must request reactivation of his application at the appropriate time, and bring it up to date.

An applicant who has been denied admission may reapply in a later year, particularly if he has had further training which would strengthen his application or if he can submit additional letters of recommendations.

Admission to the Graduate School does not imply that the successful applicant has been accepted as a candidate for a graduate degree. Superior performance at Brandeis University is essential. Admission to candidacy for the M.A. or M.F.A. is granted by the graduate department or committee administering the program of study. Admission to candidacy for the Ph.D. is granted by the Graduate Council on the recommendation of the Department or Committee administering the program of study.

Readmission

Admission is valid only for one academic year. A student's record is reviewed annually, and he may be denied readmission. Students completing the requirements for the M.A. or M.F.A., and students who already hold a Master's degree but who have not yet been admitted to candidacy for the doctorate, must make formal application for readmission by the first business day in April of each year if not requesting financial aid, or by the first business day in March if requesting financial aid. The application for readmission must be filed with the Graduate School Office.

Foreign Students

Graduates of foreign colleges and universities who have the equivalent of an American Bachelor's degree, and foreign students who have been graduated from American universities may compete for admission and financial assistance.

In order to ascertain the eligibility of the candidate, Brandeis University requires that each applicant file a *Preliminary Request for Application* form which may be obtained by writing to either the Graduate School of Arts and Sciences or the Office of International Programs any time before September 1 of the year preceding the anticipated admission date. This information will be evaluated and the application form itself will be sent to those who qualify.

Final applications must be completed and returned by March of the year in which the student seeks fall admission. Successful applicants will be notified as soon as possible.

Entrance Examinations. All applicants whose major language of instruction is not English must take the Test of English as a Foreign Language (TOEFL); thorough competence in English is required for study at Brandeis. All applicants are urged to take the Graduate Record Examination (GRE). They should consult this catalog for the departments which may *require* this examination. For information concerning the administration of both these examinations, applicants should write to the Educational Testing Service, Princeton, New Jersey 08540.

Financial Aid. Financial aid in the form of scholarships, fellowships, teaching assistantships and research assistantships is available to only a few of the most outstanding students. In any case, the total assistance offered usually covers only a small proportion of the student's total annual expense. Hence the student, when applying for admission, should indicate his means of financial support. At least \$3,000 is necessary to cover living costs for the nine month academic year, exclusive of expenses for tuition, travel and summer or vacation periods.

A small number of Wien International Fellowships may be granted to outstanding doctoral candidates.

Employment. The regulations of the United States Immigration and Naturalization Service limit strictly the amount of paid work that a student from abroad may do. The student should be aware of this restriction in making his financial plans. During the summer vacation, however, the Immigration Service usually permits the student to obtain work to support himself, and even sometimes to meet some personal expenses for the following academic year. Students must petition on special United States government forms, through the Office of International Programs, for permission to accept such employment.

Academic Regulations

Registration

Every resident student must register in person at the beginning of each semester, whether the student is attending regular courses of study, carrying on research or independent reading, writing a thesis or dissertation, or utilizing any academic service or facility of the University. Students who have completed their residence requirements and who wish to utilize any academic service or facility of the University must also register.

There is a charge of \$10.00 if registration is not completed at the time specified in the Academic Calendar for the Graduate School.

Registration consists of payment of all fees for the semester and filing a program card and other required forms duly completed.

Program of Study

Before filing his Program Card, the student should plan his program of study in consultation with the chairman of his department. All courses for which the student registers for credit must be listed on the Program Card.

Audited courses must also be listed, noted as "audit," and the Program Card must be signed by instructors of such courses.

A graduate student may not normally register for an undergraduate course (numbered below 100) in his own area for degree or residence credit unless he secures the signed approval of both the instructor of that course and his department chairman. The student must then petition the Dean of the Graduate School for the desired credit, and must receive his approval before or at the time of registration. Credit will not be given for undergraduate courses taken to make up deficiencies in the student's preparation for a graduate program of studies, nor will credit ordinarily be given for language

courses that are not part of the student's program of studies. Under no circumstances may a student receive credit toward completion of degree or residence requirements for courses undertaken to aid in the completion of language requirements. Scholarship students may not apply their scholarships toward the remission of tuition for undergraduate courses taken to remedy deficiencies. The completed Program Card must be signed by the department chairman before submission at registration, and the department chairman will certify whether the program of study is full-time or part-time and, if part-time, whether one-quarter, one-half, or three-quarters time. Full-year courses must be re-entered on the program card at Spring Registration, and ordinarily they may not be dropped at midyear. A student wishing to drop a full-year course at midyear must petition the Dean of the Graduate School for permission, after receiving the written approval of the instructor of the course and of the chairman of his department. No student may register at midyear for a full-year course without the written approval of the instructor of the course and his department chairman.

Auditing Courses

The privilege of auditing courses without fee is extended to all regularly enrolled graduate students except those classified as special students. Special students may audit courses by paying for them at the same rate as those taken for credit. No course may be audited without the permission of the instructor. An auditor is merely a listener. He may not take examinations or receive evaluation from the instructor. No credit is granted for an audited course.

Change of Program

A registered student who wishes to drop or add a course or alter his program of study must obtain a Course Change Card from the Graduate School Office and return it when properly filled out. Credit will not otherwise be given for the courses changed. In addition, a student must change his program within the specified time limits stated in the current academic calendar, or he will be subject to a \$10.00 fine.

Students may not drop courses after December 1 in the first term or after April 1 in the second term of the academic year.

Registration in Terms of Time

An advanced student—one who has completed one full year of residence, either by graduate work at Brandeis or by receiving credit for graduate work done elsewhere—may register in terms of time, subject to the signed approval of his department chairman. His Program Card must indicate that he is registering full-time or a specific fraction thereof (one-quarter, one-half, or three-quarters).



Registration in terms of time is a device that helps to individualize programs of study and permits increased freedom for independent research for the advanced graduate student. Registration in terms of time frees the student to pursue a program of study that partially accepts or bypasses altogether the system of formal courses, although a student registering in terms of time will usually register for an advanced research or dissertation course. His time will be spent in such research and reading as will be most beneficial to his development as a scholar.

Absence from Examinations

A student who is absent from a midyear or final examination without an accepted excuse will receive a failing grade for that examination. No student may be excused from such examination unless for emergency or medical reasons, nor may he be excused if he was able to notify the instructor in advance and failed to do so. Cases involving absence are referred to the chairman of the department. The department will decide whether a make-up examination shall be allowed, and will notify the Dean of the Graduate School. The examination must be taken within six weeks of the opening of the next semester.

Grades and Course Standards

Graduate students are expected to maintain records of distinction in all courses. Letter grades will be used in all courses in which grading is possible. Courses graded "Non-credit" are those which carry no credit but which are required of the student. In thesis or research courses, if a letter grade cannot be given at the end of each semester or academic year, "Credit" or "No Credit" may be used.

"No Credit" and any letter grade below "B-minus" are unsatisfactory grades in the Graduate School. A course in which the student receives an unsatisfactory grade will not be counted toward graduate credit.

At the end of each academic year the Registrar of the Graduate School will issue to all registered students a report of their grades and of degree requirements that have been completed satisfactorily.

Incompletes

A student who has not completed the research or written work for any course may receive a grade of "Inc." (incomplete) or a grade of failure at the discretion of the instructor in the course. A student who receives a grade of "Inc." must satisfactorily complete the work of the course in which the "Inc." was given in order to receive credit for the course and a letter grade. An "Inc.," unless given by reason of the student's failure to attend a final examination, must be made up no later than the end of the term following the term in which it was received. When failure to take a final examination has resulted in an "Inc." resolution of that grade to a letter grade must occur within six weeks of the beginning of the next academic semester. If a student requires additional time to settle an incomplete grade, he may petition the Dean of the Graduate School for an extension of time, provided the petition is signed by the instructor of the course and by the department chairman. Such a petition must be filed prior to the expiration of the deadline for making up an incomplete.

Credit for Work Done Elsewhere

Graduate work taken elsewhere may not be counted toward fulfillment of the residence requirement at Brandeis University for the degree of Master of Arts, although a department may accept work taken elsewhere in partial fulfillment of specific course requirements for the degree. Not more than one semester of residence credit for work taken elsewhere may be counted toward fulfillment of the residence requirement for the degree of Master of Fine Arts. Not more than one year of residence credit for work taken elsewhere may be counted toward fulfillment of the residence requirement for the degree of Doctor of Philosophy.

A student admitted to a Ph.D. program at Brandeis University who has done graduate work elsewhere may file an application to have his work at that institution counted toward fulfillment of residence requirements. However, language requirements, qualifying and comprehensive examinations, the dissertation and the final oral examination, and other such requirements must be fulfilled while enrolled at Brandeis.

To be eligible to receive credit toward fulfillment of residence requirements for work taken elsewhere, a student must complete at least one semester's residence at Brandeis as a full-time student. He may then file an "Application for Credit for Graduate Work Done Elsewhere." The completed application should be submitted to the Graduate School Office, which will advise the student of the action taken on his application. An applicant will not necessarily be given the credit he requests. Each department reserves the right to require of any student work in excess of its minimum standards to assure thorough mastery of his area of study. In any case, every candidate for the

Ph.D. degree must complete at least one year in residence at Brandeis as a full-time student, or the equivalent thereof in part-time study.

Residence Requirements

Residence requirements for all graduate degrees are computed by determining the amount of registration for credit and the tuition charges. Part-time students and teaching assistants pursuing part-time programs of study for credit complete their residence requirement when their fractional programs (one-quarter, one-half, three-quarters) total the amount required of a full-time student for any given degree.

Master of Arts

The minimum residence requirement for all students is one academic year on a full-time graduate credit program at the full tuition rate, or the equivalent thereof in part-time study.

Master of Fine Arts

The minimum residence requirement for all students is three academic semesters on a full-time graduate credit program for each semester, at the full tuition rate for each semester, or the equivalent thereof in part-time study.

Doctor of Philosophy

The minimum residence requirement for all students is two academic years on a full-time graduate credit program for each year, at the full-tuition rate for each year, or the equivalent thereof in part-time study.

Full-Time Resident Students

A full-time student is one who devotes his entire time, during the course of the academic year, to a program of graduate work at Brandeis University, to the exclusion of any occupation or employment. In exceptional cases, however, a student may accept outside employment with the approval of his department chairman.

A full-time program may include a combination of teaching and research assistance, work leading to the fulfillment of degree requirements, such as preparation for qualifying, comprehensive, and final examinations, or supervised reading and research, or the writing of M.A. theses and Ph.D. dissertations, as well as regular course work.

A full-time resident student may take as many courses for credit in any semester as are approved by his department chairman, but no student may

receive credit for, or be charged for, more than a full-time program in any semester. Thus the minimum residence requirement for any degree may not be satisfied by an accelerated program of study or by payment of more than the full-time tuition rate.

Ph.D. candidates and students for whom the M.A. and M.F.A. degrees are terminal degrees may continue as full-time students on completion of their residence requirements by registering at the post-residence fee rate (see p. 63).

Part-Time Resident Students

A part-time student is one who devotes less than his entire time to a program of graduate work at Brandeis University. He may register for a credit program of one-quarter, one-half, or three-quarters time. A part-time student may engage in outside employment with the permission of his department chairman, who may restrict the time permitted for such employment.

Students wishing to pursue part-time resident study leading to a graduate degree must explain in writing, at the time they seek admission, why full-time study is not possible. An enrolled student receiving financial aid from the University, who wishes to change his status from a full-time to a part-time resident, must file with the Graduate School Office an explanation of why full-time study is no longer possible.

Post-Resident Students

A graduate student who has completed residence requirements and who registers in order to utilize academic services or University facilities while completing degree requirements is a post-resident student.

Special Students

On occasion, properly qualified persons who wish to audit or to take courses without working for a degree will be admitted. Special students are not eligible for University loans, scholarships, fellowships, teaching or research assistantships, nor will they be considered for resident counsellorships. A special student who later wishes to change his status to that of a part-time or full-time student working for a degree must apply for admission as a resident student. He must also file a special petition if he wishes credit to be accepted for any courses taken at Brandeis as a special student. Credit for such course work may be granted in exceptional cases.

Leave of Absence

Students who have not completed their residence requirements may petition for leave of absence. The petition must have the approval of both the chairman of the department and the Dean of the Graduate School. Leave of absence up to one year will normally be granted to students in good academic standing who present compelling personal reasons or need to do work off campus in connection with their graduate studies. Time spent on authorized leave of absence will not be deducted from the maximum time permitted to complete degree requirements.

If for any reason a student must extend a leave of absence, he must request such extension in writing before his leave of absence expires. Failure to do so will result in being automatically dropped from the Graduate School roster.

Continuation

A graduate student who has completed residence requirements and who is not registered during the period in which he is completing degree requirements is considered a Continuation Student. A student in this category is not eligible for a leave of absence.

Withdrawal

A student who wishes to withdraw from the Graduate School at any time before the end of the academic year must give immediate written notice to his department chairman and to the Dean of the Graduate School. Failure to comply with this procedure for withdrawing may subject the student to dishonorable discharge, refusal of readmission, cancellation of the privilege of securing an official transcript of his record, and, in the case of a student withdrawing within 30 days of the beginning of classes, loss of eligibility for partial refund of tuition. Such a student must pay tuition for the full semester. Permission to withdraw will not be granted if the student has not discharged all financial indebtedness to the University or has not made arrangements for subsequent payment to the satisfaction of the Office of University Finance.

Exclusion, Dismissal or Expulsion

The University reserves the right to dismiss or exclude at any time any student whose character, conduct, academic standing or financial indebtedness it regards as undesirable, and without assigning any further reason therefor;

neither the University nor any of its Trustees or officers shall be under any liability whatsoever for its disciplinary action, exclusion or dismissal.

The University also reserves the right to revoke, cancel or reduce at any time any financial or honorific award made to any graduate student, for character, conduct, academic standing or financial indebtedness regarded by the University as undesirable, and without assigning any further reason therefor; neither the University nor any of its Trustees or officers shall be under any liability whatsoever for cancelling, revoking or reducing any award.

General Degree Requirements

The following general requirements apply to the awarding of graduate degrees in all areas of study. For the specific requirements of each program of study, students should consult the appropriate section of this catalog.

Master of Arts

In order to qualify for a Master's degree, the student must complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of twenty-four semester hours of approved study. Each course meeting three hours per week grants three credits per semester. Certain departments may at their option require more than twenty-four hours of graduate study. All departments offering Master's programs require that the candidate demonstrate a reading knowledge of at least one foreign language and pass satisfactorily a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral, or both. Where a thesis is required for the Master's degree, two copies must be submitted to the department chairman in final form no later than January 9 for a February degree or May 15 for a June degree.

The Master's degree must be earned within four years from the inception of graduate study at Brandeis University.

Master of Fine Arts

In order to qualify for the degree of Master of Fine Arts in Music, the candidate must complete with distinction thirty-six semester hours of course work at the graduate level, and must meet the specific requirements for the degree set forth under the Music Department, *Requirements for the M.F.A. Degree*, in a later section of this catalog. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than January 9 for a February degree or May 15 for a June degree.

In order to qualify for the degree of Master of Fine Arts in Theater Arts,

the candidate must complete forty-eight hours of course work at the graduate level, and must meet the specific requirements for the degree outlined under Theater Arts, *Requirements for the M.F.A. Degree*, in a later section of this catalog. Students enrolled for specialization in play-writing must submit two copies of a play in final form, in lieu of a thesis, to the department chairman no later than January 9 for a February degree or May 15 for a June degree.

The Master of Fine Arts degree must be earned within five years from the inception of graduate study at Brandeis University.

Doctor of Philosophy

In order to qualify for the degree of Doctor of Philosophy, a student must ordinarily complete a minimum of three years of graduate study, including two full years of residence and a third year devoted to the preparation of a doctoral dissertation. Under certain conditions credit for advanced standing will be granted for work taken in residence in graduate schools of other universities. Each Department or Committee reserves the right to require prospective candidates for the degree to perform work in excess of its minimum standards to assure thorough mastery of the area.

Prospective candidates, except in American Civilization, Philosophy and Psychology, must demonstrate proficiency in at least two foreign languages. In all areas of study the student must satisfactorily pass a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral, or both. In addition, all prospective candidates must write a doctoral dissertation and defend it in a final oral examination.

To be eligible for award of the Ph.D. degree in any given year, the student must have (1) been admitted to candidacy for the doctorate, (2) completed all residence requirements, and (3) passed all language and qualifying examinations, by the close of the semester preceding the semester in which the degree will be conferred. Doctoral dissertations must be submitted to department chairmen by December 1 for February degrees, and April 1 for June degrees. In addition, notification that the doctoral dissertation has been approved and that the dissertation examination has been passed must have been communicated to the Dean of the Graduate School no later than January 9 in the case of February degrees or May 15 in the case of June degrees.

Students entering Brandeis University with no previous graduate work must earn the Doctor's degree within eight years from the inception of study. Students who are granted credit for a year of graduate work completed elsewhere must earn the degree within seven years from the inception of their study at Brandeis.

Language Requirements

A reading knowledge of at least one foreign language is required of all students engaged in programs of study leading to the M.A. degree. A reading knowledge of at least two foreign languages is required of all students engaged in study leading to the M.F.A. in Music. Students in the M.F.A. program in Theater Arts with a specialization in Dramatic Writing must demonstrate a reading knowledge of at least one foreign language. A reading knowledge of at least two foreign languages is required of all students engaged in programs of study leading to the Ph.D. degree. *Exceptions:* One foreign language is required in History of American Civilization, Philosophy and Psychology. Candidates for the Ph.D. degree in Music are required, with certain exceptions, to have a reading knowledge of three foreign languages. Graduate departments may require degree candidates to demonstrate proficiency in additional languages. Each department determines which languages are acceptable as satisfying the foreign language requirements.

Students are expected to satisfy the language requirements as soon as possible. The completion of the language requirements at another university does not exempt the candidate from the Brandeis requirements. The student should present himself for at least one language examination during his first year of residence.

A student who has not passed an examination in at least one foreign language by the end of his first year of study will not be eligible for financial aid from the University for the second year.

All Ph.D. candidates must pass their second language examination no later than the semester preceding the semester in which the degree is to be conferred.

Many departments require that language examinations be passed at an earlier time than specified in these provisions. Special requirements will be found in the departmental statements included in this catalog.

Admission to Candidacy

A student who (a) has demonstrated a knowledge and mastery of the subject matter of his field at a level satisfactory to his Department or Committee; (b) has passed all departmental qualifying examinations; (c) has indicated a capacity for independent research of high quality; and (d) has satisfactorily completed all specific Department or Committee requirements for admission to candidacy may, at the recommendation of the Department or Committee, be admitted under the rules of the Graduate Council to candidacy for the degree of Doctor of Philosophy. In order to be eligible for the award of the degree, the student must be admitted to candidacy at least one semester before the degree is awarded.

Application for Graduate Degrees

Candidates for the M.A., M.F.A., and Ph.D. degrees must file with the Graduate School Office an application for the degree no later than December 1 for a February degree and no later than April 1 for a June degree of the academic year in which the degree is to be conferred. Upon the written recommendation by a candidate's Department or Committee that his application be approved, his record will be reviewed by the Graduate Council which recommends him to the University's Board of Trustees for the degree. In case of failure or withdrawal from candidacy in any year, the student must reapply by filing a new application in a later year.

Dissertation and Final Oral Examination

Two copies of the doctoral dissertation, as well as an abstract of the dissertation not to exceed six hundred words in length, should be submitted to the department or committee chairman no later than December 1 for a February degree and April 1 for a June degree of the academic year in which the Ph.D. degree is to be conferred. The style and format of all dissertations are determined by the respective departments. The chairman will then appoint two or more readers, besides the principal supervisor, to read the candidate's dissertation. Certification of the approval of the dissertation by these readers will be communicated to the Dean of the Graduate School and the chairman of the Department or Committee. The chairman will then schedule a final oral examination and notify both the Dean of the Graduate School and the candidate of the time and place of the examination at least three weeks prior to the scheduled date of the dissertation defense.

The dissertation, when approved by the readers, must then be deposited in the Office of the Graduate School, where it will be available to all interested members of the faculty for at least two weeks prior to the final oral examination.

The Dean of the Graduate School will publish in the *University Gazette* the time and place of a candidate's final oral examination and the title of his doctoral dissertation. The final oral examination will be open to any member of the faculty engaged in graduate instruction and to invited faculty members of other institutions.

The Examining Committee, recommended by the department chairman and approved by the Dean of the Graduate School must be composed of a minimum of three faculty examiners. At least one member of the committee shall be from a graduate area outside the student's own, though preferably from a related area.

The examination may be restricted to a defense of the dissertation, or may cover the whole field of the dissertation. The candidate will be notified

by his Department or Committee of his responsibility for coverage at the examination.

A report, signed by the Examining Committee, certifying the candidate's successful performance on the final oral examination, will be submitted to the Dean of the Graduate School no later than January 9 for a February degree or May 15 for a June degree of the year in which the degree is to be conferred.

Deposit and Publication of Dissertation

By January 29 for February degree candidates, or June 1 for June degree candidates, the candidate must deposit two copies of his finished dissertation, including the original typescript, in a state suitable for microfilm and Xerox publication. Both copies of the dissertation must have the signed approval of the dissertation supervisor and readers. One copy will be retained by the library, the other by the department, both in bound form. The candidate must also submit two copies of an abstract of the dissertation, not exceeding 600 words, which has been approved by the dissertation supervisor.

A detailed statement of the Graduate School publication regulations is available from the Graduate School Office. See also the statement in this catalog, under *Fees*, on the Final Doctoral Fee.

Fees

All fees are payable on the dates they are due. In exceptional cases, students may make prior arrangements with the Office of University Finance for installment payments. A candidate for a June degree must pay any outstanding indebtedness to the University by June 1 just prior to Commencement, or his name will be stricken from the rolls of degree candidates. Candidates for February degrees must pay any outstanding indebtedness by January 17 of the year in which the degree is conferred.

Payment of tuition and other fees due on the day of registration is a part of the registration procedure. A student who is not prepared to pay such fees on the day of registration and who has not made alternative arrangements for payment with the Accounting Office will be refused the privilege of registration. A registered student who defaults in the payment of indebtedness to the University shall be subject to suspension, dismissal and refusal of a transfer of credits or issuance of a transcript. A student who has been suspended or dismissed for nonpayment of indebtedness to the University may not be reinstated until such indebtedness is paid in full.

Application Fee: \$15.00. Payable by all applicants for admission at the time the application for admission is submitted and is not refundable. Checks

and money orders should be made payable to the order of Brandeis University. No application for admission will be processed until this fee is paid. This fee is not required of Brandeis graduates.

Tuition Fee: The fees for tuition in the Graduate School for 1969-70 are as follows:

Full-time resident students: \$2,275 per year, or \$1,137.50 per semester.

Part-time resident students:

<i>Per Semester</i>	<i>Per Year</i>	<i>Fraction Program of Study</i>
\$852.00	\$1,704.00	Three-quarters
\$568.00	\$1,137.50	One-half
\$284.00	\$ 568.00	One-quarter

Special Students: \$284.00 per course per semester.

In view of constantly increasing costs of education, a student may expect one or more tuition increases during his academic career.

Post-Residence Fee: Students who have completed their residence requirements and who wish to continue in residence to utilize any academic service or University facility must register at the usual tuition rates. Graduate students whose tuition is not being paid from scholarship or fellowship funds awarded by the University or other sources may petition the Dean of the Graduate School for a reduction of the post-residence fee to \$250. Students who continue to utilize any academic service or University facility after having completed residence, but who have failed to register, are subject to disciplinary action by the Dean of the Graduate School. A student who is eligible for registration on the post-residence basis may file a program card for full-time study, in terms of courses or in terms of time or any combination thereof, provided his department chairman approves of the program of study as being a full-time program and signs the program card.

Mixed Tuition Fee: In the event that a student needs to register for only a part-time program (one-quarter, one-half, or three-quarters) in order to complete his residence requirements, but wishes to register for additional courses or take a fuller program of study, he shall be charged for the part-time program needed to complete his residence, plus the post-residence fee.

Summer Tuition Fee: Brandeis University does not conduct a regular summer school session. However, special courses of study on an individual basis may be arranged for regular students. The tuition for graduate students who remain in residence for special summer programs of a twelve week duration is \$500.00, and of an eight week duration, \$350.00.

Late Registration Fee: \$10.00. Payable for failure to complete registration at the time announced by the Graduate School Office. (Consult the Academic Calendar.)

Change-of-Program Fee: \$10.00. Payable by any graduate student who wishes to change his program of study later than two weeks after the first meeting of classes in each semester.

Continuation Fee: \$10.00. Payable annually by graduate students who have completed residence requirements and who are not registered during the period in which they are preparing for the completion of degree requirements. Students in this category are not eligible for leave of absence.

Master's Fee: \$50.00. A candidate for the M.A. or the M.F.A. who is subject to the Continuation Fee and who submits a Master's thesis or takes a qualifying examination in any semester following one in which he has not been in residence, shall pay the Master's Fee. The fee is chargeable only once. The Continuation Fee will be applied toward payment of the Master's Fee.

Final Doctoral Fee: \$250. This fee covers all costs for the year in which the Ph.D. degree will be conferred, including the costs for the microfilm publication of the doctoral dissertation, the publication of the abstract of the dissertation in *Dissertation Abstracts*, copyright protection for the author if desired, issuance of a Library of Congress number and appropriate library cards, binding two copies of the dissertation for use in the University Library, and the Xerox-printed copies in book form for the author. The Final Doctoral Fee also covers the rental expenses for academic robes for the candidates at graduation and cost of the diploma. Students who have been in residence in their final year may deduct any tuition charges which they may have paid to the University in that final year. Students who have paid the Continuation Fee in the final year may deduct that fee from the Final Doctoral Fee.

NOTE: All candidates for the Ph.D. degree must pay the \$250 Final Doctoral Fee prior to the receipt of their degrees. A candidate may, however, elect not to contract for the Xerox publication of his dissertation, and in lieu thereof may separately arrange for its publication either as a book or as articles in scholarly journals within twenty-four months following the award of the degree. On due evidence that the work has been published or is scheduled for publication within the required time, a maximum rebate of \$100 of the Final Doctoral Fee may be authorized.

Reinstatement Fee: \$10.00. Payable by a student who, after suspension or dismissal, has been reinstated with the consent of the Dean of the Graduate School.

Transcript Fee: \$1.00. Students, former students and graduates who request official transcripts of their records in the Graduate School are charged \$1.00 for each copy issued after the first one, which is issued free of charge. Requests by mail for transcripts must be accompanied by a check in the correct amount, payable to Brandeis University.

Diploma Fee: \$10.00. Payable by candidates for the M.A. and M.F.A. degrees.

Students Health Plan Fee: \$87.00. Payment of the mandatory Health Plan Fee entitles the graduate student to utilize the facilities of the Health Office during the academic year and to participate in the benefits of the Health Insurance Program. The fee is payable at registration and no portion is refundable.

Exceptions: The University Student Health Plan is optional for special students.

Dependent Coverage: Although the health services offered at Stoneman Infirmary are not extended to dependents of students, an optional family health insurance plan is available to married students for a fee of \$233.88. Special students are not eligible for this plan.



Refunds

The only fee which may be refundable, in part, is the tuition fee. No refund of the tuition fee will be made because of illness, absence or dismissal during the academic year. If a student withdraws within 30 days from the beginning of classes, he may petition the Director of Accounting for a partial refund of tuition. A refund may be denied without any reason for such denial being stated.

Financial Assistance

To help students whose records indicate scholarly promise, the University makes available a variety of awards and work opportunities. No student is eligible for aid unless he files with the Graduate School Office an "Application for Financial Assistance" by the first business day in March. In exceptional circumstances applications received from prospective students later than this date may be given consideration. All scholarships and fellowships are granted for one academic year; therefore, a registered student who holds a scholarship or fellowship must apply for a renewal by filing the "Application for Financial Assistance" by the first business day in March.

All awards are granted and accepted with the understanding that they may be revoked or reduced at any time for conduct or academic standing that may be regarded as undesirable.

Ordinarily, no student may hold a fellowship, scholarship, or teaching assistantship for more than two years of study for the M.A. degree, for more than three years of study for the M.F.A. degree, or for more than four years of study for the Ph.D. degree. No student may receive a scholarship, fellowship, or teaching assistantship after one year of study at the post residence fee. Part-time students are ineligible for fellowship awards, and are not ordinarily considered for scholarship awards. Teaching assistants who are part-time students may apply for scholarships. Priority in making awards is given to full-time students and teaching assistants.

Scholarships

A scholarship is an award, on grounds of scholarly ability and need, of financial credit that may be used exclusively for remission of tuition fees. Full scholarships in the value of \$2,275 and partial scholarships are available. Scholarship students are liable for all but tuition fees in the amount of a scholarship award shall not be charged.

Fellowships

A fellowship is an academic award of honor to outstanding students of good character to help them in furthering advanced study and research. Fellowships carry stipends ranging up to \$2,500 in the graduate programs in the humanities and social sciences and up to \$4,000 in the graduate science programs. The amount of the stipend depends on the quality of the student's record and performance; need is also considered in most cases. A fellowship recipient must pay tuition fees unless he is also awarded a scholarship in an amount covering tuition. No services are required of students for fellowship or scholarship awards.

Teaching Assistantships

Teaching assistants are resident students in the Graduate School who do part-time teaching as part of their training and are paid a stipend in return for services rendered. The University has established teaching assistantships to enable distinguished graduate students to gain teaching experience while continuing their studies. Teaching assistants are eligible for other awards, including scholarships and fellowships.

A full-time student who is a teaching assistant receives residence credit for, and is charged tuition for, that fraction of his program spent as a student in fulfillment of degree and residence requirements.

First-year graduate students are eligible for appointment as teaching assistants in the sciences. In other areas, however, first-year students are rarely appointed. Foreign students are not normally eligible for appointment as teaching assistants in their first year of graduate work unless they have had training at another American university.

Teaching assistantship appointments are made on the authority of the President of the University by the Dean of the Graduate School who, in turn, acts on the recommendation of a student's department chairman. A graduate student who is interested in being appointed as a teaching assistant should write or see his chairman. Appointments are made for periods of one year or one semester, but are renewable. All awards of teaching assistantships to incoming students are conditioned on an interview with a University representative, prior to registration. The University reserves the right to terminate any appointment at any time for due cause. Conduct, character or academic standing that is regarded as undesirable may constitute cause, but the University need not assign any reason for the termination of an appointment at any time. All teaching assistantship appointments are made and accepted with this understanding, and neither the University nor any of its Trustees or officers shall be under any liability whatsoever for the summary termination of a teaching assistantship.

In the case of a student receiving financial aid from Brandeis University, whether in the form of a teaching assistantship, scholarship or fellowship, the approval of the Dean of the Graduate School is required, in addition to the approval of the department chairman, before the student may engage in outside employment. Approval is not normally granted in the case of full-time students receiving financial aid from the University.

Research Assistantships

Research assistantships, which sometimes carry stipends in excess of \$4,000, are available in the science areas. First-year graduate students are not normally eligible for appointment. Application should be made to the chairman of the Department or Committee administering the graduate program.

Loan Funds

Normally, graduate students are ineligible for loan funds until they have completed one semester in residence. Part-time and special students are not eligible for loan funds.

Brandeis University participates in the National Defense Education Act Student Loan Fund. Application for N.D.S.L. loans and for University loans may be made to the Accounting Office with the prior approval of the Dean of the Graduate School.

Resident Counsellorships

A limited number of positions are available for both married and unmarried men and women as counselors in the University residence halls. Remuneration includes room, board and a stipend of \$600 for the academic year. Interested students should apply to the Director of Residence, Brandeis University, Waltham, Massachusetts 02154, no later than April 15. Appointments are made by the Residence Halls Office, on the recommendation of the Dean of the Graduate School, on or before June 15.

Office of Student Employment

The Office of Student Employment assists students who need and desire part-time work. Students seeking part-time work should register with the Office of Student Employment. New students are not assigned part-time work prior to arrival on campus.

The on-campus, part-time student rate of pay is \$1.35–\$2.00 per hour. Students can expect to earn from \$200 to \$400 per year. Brandeis participates in the College Work-Study Program, which helps provide additional part-time and summer employment both on and off campus for students with financial need.

Areas of Study and Courses

All courses meet for three hours a week unless the course description indicates otherwise. The presence of "a" in the course number indicates a half course given in the Fall Term; "b" indicates a half course given in the Spring Term; "aR" indicates a course given in the Spring Term, "bR," a course given in the Fall Term which is identical with an "a" or "b" course of the same number given in the Fall and Spring Terms respectively; the use of "c" after a course number indicates that the course is given as a half course but meets throughout the year.

Half courses normally carry three credits and full courses six. Exceptions are noted under the individual course descriptions. Additional credits are given for laboratory hours, as indicated in the course descriptions.

The University reserves the right to make any necessary changes in the offerings without prior notice.

American Civilization

See History of American Civilization (page 113).

Anthropology

Objectives

The graduate program in anthropology is designed primarily to train students at the doctoral level. The objective is to provide the student with a broad understanding of the four major fields of anthropology, with particular stress on ethnology and social anthropology, and to prepare the student for independent research and scholarship. Accordingly, there is a strong emphasis on training in comparative work and field work, which are integral parts of the doctoral program.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Students need not have an undergraduate major in anthropology or sociology-anthropology. If admitted, however, the student without previous training in anthropology may be required to take additional courses, as determined by the department, to complete his residence requirements. Students should have a reading knowledge of one foreign language.

Faculty

Associate Professor ALEX WEINGROD, *Chairman*: Modernization. Peasant societies. Mediterranean.

Professor HELEN CODERE: Method and theory. Economic anthropology. Primitive art. Africa.

*Professor ROBERT A. MANNERS: Africa. The Caribbean. Modern cultures.

**Associate Professor GEORGE L. COWGILL: Archaeological theory. Statistical and computer methods. Early civilizations, especially Middle America.

Associate Professor ROBERT C. HUNT: Cultural anthropology. Meso-America.

*Associate Professor DAVID KAPLAN: Mexico. Economics. Method and theory.

Associate Professor BENSON SALER: Culture and personality. Primitive philosophies and religion. Formal analysis. Middle America. South America.

Assistant Professor JOAN BAMBERGER: Social anthropology. Ritual and myth. South America.

Assistant Professor DAVID JACOBSON: Social anthropology. Urban social organization. Africa.

**Assistant Professor DAVID A. HERR: Physical anthropology. Primate studies.

Assistant Professor E. CRAIG MORRIS: Archaeology. South America.

Assistant Professor KARL M. I. REISMAN: Ethnography of communication. Linguistics. Caribbean.

Assistant Professor MARGUERITE S. ROBINSON, *Student Adviser*: Social organization. South Asia.

Lecturer TIMOTHY ASCH: Film and tape in field research. Director, Ethnographic Film Studies.

Degree Requirements

Master of Arts

No one will be accepted in the program who is not a doctoral candidate. However, the M.A. degree will be awarded upon successful completion of the following requirements: a minimum of twenty-four course credits, a high passing grade in a written qualifying examination in cultural anthropology, demonstration of proficiency in one foreign language, and a research paper based on a subject chosen by the student in consultation with his adviser.

Doctor of Philosophy

Admission to the Program. Students who complete the first year qualify-

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

ing examination at a high level will be admitted to the Ph.D. program. Students with an M.A. in anthropology from other institutions, or with a minimum of a full academic year of graduate course work in anthropology from other institutions, may be admitted as prospective candidates for the Ph.D. degree. After a minimum of one semester's work, the department may, at its discretion, grant the student transfer credit of up to one year toward the Ph.D. residence requirements. In most instances, transfer students will be required to pass the first-year qualifying examination, but, at the discretion of the department, this may be waived.

Program of Study. During their first year of residence, students are assigned to an adviser with whom they design their course and research program. Maximum flexibility is encouraged regarding the choice and timing of course work. Doctoral candidates must complete two years of residence at Brandeis, and a minimum of forty-eight hours of credits. Work done at other institutions may be counted as part of residence, as stipulated above and in the general rules of the Graduate School. At least thirty-six course credits must be in anthropology.

Students concentrating in cultural anthropology select areal and topical courses in their field of special interest. It is expected that students will attain a scholarly competence in at least one culture area and a topic of study. In addition, students are required to pass course examinations in statistics, physical anthropology, archaeology, and linguistics. The pre-doctoral examination in cultural anthropology, normally given following two or three years of residence, includes questions based on the student's particular areal and topical interests.

Students concentrating in archaeology must meet most of the same requirements as those concentrating in cultural anthropology. They will be expected to pass the first-year qualifying examination in cultural anthropology. The pre-doctoral examination will emphasize archaeology, but will also include other fields of anthropology.

Language Requirements. A reading knowledge of two acceptable foreign languages is required of all Ph.D. candidates. Proficiency in at least one of these languages should be demonstrated in the first year of residence. At its discretion the department may require proficiency in two languages prior to beginning dissertation research.

Summer Training Program. A selected group of students in the Ph.D. program will be invited each year to participate in a summer field training program under the direction of a faculty member. No student will be admitted to this program unless he has passed the qualifying examination in cultural anthropology.

Admission to Candidacy. A student is admitted to candidacy on satisfactory completion of the following: the general qualifying examination (where required); an examination in at least one foreign language; forty-eight hours of course credits; and a predoctoral examination which may cover any aspects of anthropology and tests the scope of the student's knowledge and his ability to integrate that knowledge.

Field Work for the Dissertation. As soon as possible after qualifying for candidacy for the Ph.D., the candidate will be expected to begin a full year of field research, which will ordinarily form the basis of his dissertation.

Dissertation and Defense. The degree of Ph.D. will be awarded only after successful defense of the dissertation.

Courses of Instruction

ANTHROPOLOGY 102a. Anthropological Linguistics I

A general consideration of language in an anthropological context; language and culture; ethnography of speaking; speech communities and language contact; linguistic evidence in the study of prehistory.

Mr. Reisman

ANTHROPOLOGY 102b. Anthropological Linguistics II

Training in the recording and analysis of spoken languages with emphasis on non-Indo-European languages.

Mr. Reisman

ANTHROPOLOGY 103b. Language and Culture

Language, thought, and meaning; speech differences within societies; processes of change; expressive language and poetics. Considerable attention will be given to the nature and role of Afro-American language and speech. No previous training in linguistics required.

Mr. Reisman

ANTHROPOLOGY 105a. Ritual, Myth and Symbol

A study of the social dynamics of ritual behavior, mythology and symbolism among primitive peoples.

Miss Bamberger

ANTHROPOLOGY 109b. Archaeological Methods

Basic archaeological procedures for reconnaissance, excavation, and analysis of data; some important aspects of primitive technology; a survey of recently developed instruments and techniques for finding, dating, and analyzing ancient materials; and problems in archaeological theory.

Laboratory exercises and field trips will give students practical experience with archaeological data.

Mr. Morris

ANTHROPOLOGY 110b. Physical Anthropology

An introduction to the major fields of physical anthropology; human evolution, genetics, anatomy, and modern views of race.

Mr. Horr

ANTHROPOLOGY 121aR. Quantitative Techniques in Anthropology

An introduction to statistical and other formal methods in anthropology, including set theory, probability, cross-cultural methodology, and computer techniques.

Mr. Cowgill

*ANTHROPOLOGY 121b. Mathematical Methods in Anthropology

A continuation of Anthropology 121a, including more advanced statistical methods, and consideration in depth of anthropological applications.

Prerequisite: Anthropology 121a or the equivalent.

ANTHROPOLOGY 123a. Introduction to Prehistory

A survey of man's prehistoric cultures and an introduction to the techniques and concepts used by archaeologists in obtaining and interpreting data about these early cultures.

Mr. Morris

*ANTHROPOLOGY 124b. Prehispanic Civilizations of the New World

A survey of the prehistory and major features of the native civilizations of Middle and South America, from their origins through the Spanish conquests of the 16th century.

*ANTHROPOLOGY 127b. Origins of Early Civilizations of the World

The development of the earliest food-producing communities and the rise of the earliest civilizations of the Old and New World, based on archaeological data. The emphasis is comparative and theoretical.

ANTHROPOLOGY 133b. Peoples and Cultures of Africa

Selected problems in the description and analysis of social organization and social change in East African societies, with particular reference to Rwanda and Uganda.

Miss Codere and Mr. Jacobson

*ANTHROPOLOGY 135a. Peoples and Cultures of India

An examination of institutions of representative Indian peoples and their relationship to the wider Indian society.

*ANTHROPOLOGY 136a. Cultures of the Far East

China, Japan, and Korea. Problems of evolution and development in a context of diverse influences.

*ANTHROPOLOGY 139b. Peoples and Cultures of the Mediterranean

A comparative analysis of contemporary rural peoples in the Mediterranean region (Europe, North Africa, Middle East) and their relationships to urban settings.

*ANTHROPOLOGY 141b. The American Indian

A survey of the peoples and cultures of aboriginal North America.

ANTHROPOLOGY 143a. Modern Cultures of Middle America

Contemporary Indian and Ladino societies.

Mr. Hunt

ANTHROPOLOGY 144aR. The Cultures of Native South America

The course will consist of an intensive reading of the important published sources on the peoples of Central Brazil and the Tropical Forest. The goal will be to reanalyze and compare a limited number of societies within the context of a "controlled comparison."

Miss Bamberger

* Not to be given in 1969-70.

*ANTHROPOLOGY 144b. Folk and Peasant Cultures of South America

The course will concentrate on rural communities of peasants, farmers, and rural wage earners in modern South America. Communities will be analyzed from the point of view of internal organization and relations to the nations of which they are a part.

ANTHROPOLOGY 145b. The Development of Andean Civilization

A developmental perspective on the Andean peoples from the initial occupation of the area to the present. Special emphasis will be placed on the Inca, and the fate of native traditions in the modern setting will be briefly examined.

Mr. Morris

ANTHROPOLOGY 150a and b. Film and Tape in Field Research

A seminar and practicum on the use and potential of audio-visual devices in field work.

Mr. Asch

ANTHROPOLOGY 151a. Social Organization

Theories of social organization, the interrelations of social institutions, current anthropological methods of interpretation and analysis.

Mr. Weingrod

ANTHROPOLOGY 151b. Social Organization

A continuation of 151a. This course will emphasize structural analysis. Designed primarily for advanced undergraduate and graduate students.

Mrs. Robinson

ANTHROPOLOGY 152b. Economic Anthropology

Economic institutions of non-industrial societies.

Miss Codere

ANTHROPOLOGY 153a. Primitive Art

An anthropological approach to the graphic and plastic art of Africa, Oceania and North America.

Miss Codere

ANTHROPOLOGY 153b. Ethnomusicology

See Music 180b.

ANTHROPOLOGY 154aR. Primitive Religion

An exploration of belief and behavior in societies of non-literate peoples with reference to theories concerning the origins and functions of religion.

Mr. Saler

ANTHROPOLOGY 155bR. Culture and Personality

An examination of the relationships between sociocultural systems and individual psychological processes with a critical evaluation of selected theories and studies bearing on this problem.

Mr. Saler

ANTHROPOLOGY 156b. Political Anthropology

Analysis of conflict, politics and government in tribal and peasant societies.

Mr. Weingrod

ANTHROPOLOGY 158b. Urban Anthropology

The study of historic and present-day urban areas, their origin, morphology, and social structure, and their integration into the larger society. Special emphasis will be given to problems of urbanization in Africa.

Mr. Jacobson

* Not to be given in 1969-70.

***ANTHROPOLOGY 159b. Cultural Ecology**

An analysis and criticism of various theories of cultural ecology, and the application of cultural ecological concepts to specific research problems.

ANTHROPOLOGY 160b. Comparative Methods in Social Anthropology

A survey of the several kinds of comparative method, including heuristic comparisons, and small and large sample comparisons. *Mr. Hunt*

***ANTHROPOLOGY 161b. Culture and Cognition**

An exploration of formal techniques utilized by anthropologists in the attempt to discover and analyze systems of meaning and categorization.

***ANTHROPOLOGY 162a. Primate Social Behavior**

An exploration of social behavior in phylogenetic perspective.

***ANTHROPOLOGY 166b. Social and Cultural Change**

Selected case studies and theories bearing on the problem of change in culture and society.

ANTHROPOLOGY 167b. Modernization and Modernization Movements

A comparative analysis of programs of economic, political and social reforms. Emphasis is placed upon national government-sponsored modernization programs, particularly as they become articulated within local village communities. Materials will be drawn from Asia, India, the Middle East and Latin America. *Mr. Weingrod*

***ANTHROPOLOGY 169a. History of Anthropology**

The development of cultural and social anthropology; physical anthropology, and archaeology will be reviewed and placed in historical perspective.

ANTHROPOLOGY 175a. Pro-Seminar in Anthropological Method and Theory: I

Analysis of representative classics in anthropology.

Miss Codere and Mr. Reisman

***ANTHROPOLOGY 175b. Pro-Seminar in Method and Theory in Cultural Anthropology: II**

The development of anthropological theory, major present-day trends and their relation to problems of research.

Primarily for Graduate Students

ANTHROPOLOGY 202a and b. Modernization: An Interdisciplinary Seminar

An exploration of selected problems and processes of modernization, with reference to both the "developed" and the "underdeveloped" states and the relationship between them.

Prerequisite: Consent of the instructor.

Messrs. Bittner, Lubasz, Weingrod and Worsley

***ANTHROPOLOGY 205a. Comparative Agrarian Societies**

Representative agrarian cultures will be dealt with in detail, with particular emphasis on the interrelationship between the city, the rural community and the state.

ANTHROPOLOGY 208b. Method and Theory in Ethnographic Film

A seminar on the analysis of ethnographic film in relation to basic anthropological concepts. Students will also be introduced to a wide range of cinema field equipment.

Mr. Asch

ANTHROPOLOGY 210a. Seminar on Conflict Resolution in Peasant and Pastoral Societies

An exploration of conditions and mechanisms involved in the generation and attempted resolution of social conflicts in selected peasant and pastoral societies. Use will be made of Mrs. Robinson's and Mr. Saler's field data.

Mrs. Robinson and Mr. Saler

***ANTHROPOLOGY 210b. Seminar in Kwakiutl and Northwest Coast Ethnography**

A seminar directed to the solution of major problems of Kwakiutl ethnography, particularly problems of social organization.

ANTHROPOLOGY 226. Readings in Research in Archaeology

Mr. Cowgill

ANTHROPOLOGY 227. Readings in Research in Linguistics

Mr. Reisman

***ANTHROPOLOGY 228. Advanced Readings in Method and Theory**

ANTHROPOLOGY 229. Guided Comparative and Historical Research

Mr. Weingrod

ANTHROPOLOGY 230. Readings and Research on Culture of Hunters and Gatherers

Mr. Saler

ANTHROPOLOGY 236. Readings and Research on East and South Asia

Mrs. Robinson

ANTHROPOLOGY 237. Readings and Research in African Cultures

Mr. Jacobson

ANTHROPOLOGY 239. Readings and Research in North American Indian Cultures

Miss Codere

ANTHROPOLOGY 240. Readings and Research in Cultures of the Caribbean

Mr. Reisman

ANTHROPOLOGY 300a. Seminar in Anthropological Field Work

Consideration of selected field studies.

Required of all graduate students.

Mr. Jacobson

ANTHROPOLOGY 302. Summer Research Training

Field work for three months during the summer under the supervision of a member of the staff. 3 credits.

Mr. Jacobson

* Not to be given in 1969-70.

ANTHROPOLOGY 303a. Seminar in Inter-cultural Tensions

This course will consider some of the individual, social and socio-psychological consequences of cultural change associated with increasing contact between ethnic, tribal, occupational and class groups in contemporary cultures.

Open to graduate students from other departments with permission of instructor. *Mr. Hunt*

ANTHROPOLOGY 305. Anthropological Colloquium

Staff

ANTHROPOLOGY 400-410. Dissertation Research

Independent research for the Ph.D. degree.

400. *Miss Codere*

401. *Mr. Cowgill*

402. *Mr. Jacobson*

403. *Mr. Hunt*

404. *Mr. Horr*

405. *Miss Bamberger*

407. *Mr. Reisman*

408. *Mrs. Robinson*

409. *Mr. Saler*

410. *Mr. Weingrod*

Biochemistry**Objectives**

The graduate program in biochemistry leading to the degree of Doctor of Philosophy is designed to equip the student with a broad understanding of the chemistry involved in biological processes and to train him to carry out independent original research. Although the student will be primarily responsible for a comprehensive understanding of biochemical phenomena, he will be encouraged to acquaint himself with the disciplines of biology and chemistry. Research and experimental projects rather than formal course training will be emphasized. The student will, however, be required to take courses in advanced biochemistry, organic chemistry, physical biochemistry, biochemical techniques, molecular biology and biochemistry seminars. The choice of advanced biochemistry courses and those of other scientific disciplines (i.e., organic chemistry, genetics, embryology, etc.) are subject to the student's particular interests. The choice of research programs should be in areas under investigation by the faculty; some of these fields include intermediary metabolism in normal and also tumor tissues, enzymology, immunochemistry, radiobiology, biochemical genetics, bacterial and phage genetics, physical chemistry of macromolecules, protein chemistry, plant and virus metabolism, problems in growth and differentiation, photobiology, microbial metabolism, and organic biochemistry.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this area of study. Applicants for admission to the Biochemistry Department are also

required to take the Graduate Record Examination. The student's undergraduate curriculum should include some fundamental courses in biology and chemistry which will be subject to final staff approval.

Faculty

Professor WILLIAM P. JENCKS, *Acting Chairman*: Mechanisms of reactions catalyzed by enzymes, coenzymes, and by chemical catalysts. Effects of salt and denaturing agents on proteins. Mechanisms, catalysis and equilibria of reactions of "energy-rich" compounds of importance in biochemistry and chemistry.

Professor ROBERT H. ABELES: Mechanism of enzyme action, with particular reference to the mechanism of action of reactions involving derivatives of Vitamin B-12 and the mechanism of isomerizations.

Professor GERALD D. FASMAN: Conformation of biological macromolecules. Protein models, synthesis, conformational studies and biological properties of polyamino acids. Polyribonucleic acids conformational studies.

Professor LAWRENCE GROSSMAN: Nucleic acid metabolism in normal, tumor and virus-infected cells. Problems in biochemical replication. Action of pyrimidine analogs in chemotherapy.

Professor LAWRENCE LEVINE: Immunochemistry. Effect of antigenic conformation on the antigen-anti-body reaction.

Professor FARNSWORTH LOOMIS: Biochemistry of differentiation and growth with special reference to primitive animal systems. Role of $p\text{CO}_2$ in biological systems. Relationship of hydra to single cell systems in tissue culture.

Professor JOHN M. LOWENSTEIN: Metabolic regulation of carbohydrate utilization and fat synthesis. The interaction of metabolic pathways. Enzymatic and non-enzymatic reactions of nucleoside triphosphates.

Professor SERGE N. TIMASHEFF: Physical chemistry of proteins, in particular, structure in solution and interactions of proteins. Effects of amino acid substitution in genetic variants; macro-molecular properties of biological polymers.

Associate Professor DAVID M. FREIFELDER: Structure and function of DNA. Bacterial and phage genetics. Structure of bacterial episomes.

Associate Professor THOMAS C. HOLLOCHER, JR.: Free radicals in biological systems. Study of model free radical systems related to enzyme reactions. Biological oxidation. Nuclear magnetic resonance.

Adjunct Associate Professor JULIAN KANFER: Lipid chemistry.

Adjunct Associate Professor FARAHE MALOOF: Biochemical pharmacology. Biochemistry of the thyroid. Effects of I^{131} irradiation on thyroid tissue.

Associate Professor WILLIAM T. MURAKAMI: Biochemistry of virus infec-



tion. Metabolism of virus-infected cells. Purification and characterization of animal viruses.

Associate Professor MORRIS SOODAK: Aspects of the metabolism of the thyroid gland. Mechanism of iodination and the mode of action of the goitrogenic drugs are being investigated in cell-free preparations of thyroid tissues.

Associate Professor HELEN VAN VUNAKIS: Protein structure of enzymes and viruses. Mechanisms of viral infectivity. Photodynamic action of dyes on nucleic acids. Conversion of zymogens to enzymes.

Adjunct Assistant Professor DAVID M. DAWSON: Protein synthesis in muscle and nervous tissue.

Adjunct Assistant Professor DWIGHT ROBINSON: Protein denaturation. The mechanisms of reactions of acyl compounds.

Research Assistant Professor SUSAN E. LEEMAN: Neurosecretion. The role of the hypothalamus in the regulation of autonomic function and in the control of anterior pituitary secretion.

Degree Requirements

Doctor of Philosophy

Program of Study. Each doctoral candidate must satisfactorily complete the following fundamental courses: advanced biochemistry, biochemical techniques, history of biochemistry, physical biochemistry and radiobiology, biochemical research problems, and at least four of the biochemistry seminars.

Language Requirements. A reading knowledge of French and German is required. One of the language requirements must be satisfactorily completed prior to the oral qualifying examination. The second language requirement must be satisfactorily completed before the end of the second year of study.

Qualifying and Cumulative Examination. An oral qualifying examination must be taken generally at the end of the first year. In this examination, the student will be asked to defend or refute two propositions. One proposition will be related to the research he selects for his dissertation and the second will be an assigned proposition concerned with a different area of biochemistry.

A series of one-hour cumulative examinations will be given every month and the student is required to pass six such examinations before he may present his dissertation.

Admission to Candidacy. The qualifying examination must be passed at a level satisfactory for this degree. Admission to candidacy usually takes place at the end of the second year of study.

Dissertation and Defense. A dissertation will be required which summarizes the results of an original investigation of an approved subject and demonstrates the competence of the candidate in independent research.

At some time before the second semester of their third year, students will present to a committee of three members of the department a summary of their research accomplished to date, including the most significant experimental data, and detailed plans for the completion of a research project. The committee will recommend whether the research project should be continued as a partial fulfillment of the requirements for the Master's or Doctor of Philosophy degree.

Courses of Instruction

BIOCHEMISTRY 100a. Introductory Biochemistry

Chemistry and metabolism of compounds of biological importance, introduction to enzyme reactions, energy metabolism, cellular function and differentiation.

Prerequisite: Chemistry 25a and b.

Mr. Loomis and Staff

BIOCHEMISTRY 101. Advanced Biochemistry

A discussion of enzyme reactions including energetics, kinetics, and reaction mechanism. Metabolism of carbohydrates, lipids, amino acids, nucleic acids, vitamins and coenzymes, hormones and inorganic substances. Coupled enzyme reactions, such as oxidative phosphorylation, and the synthesis of macromolecules such as glycogen, protein and the nucleic acids.

Prerequisites: Chemistry 25a and b, Biochemistry 100a or their equivalent. Some background in elementary physical chemistry is recommended but not required.

Mr. Abeles and Staff

BIOCHEMISTRY 103a. History of Biochemistry

A discussion of significant discoveries which have led to present-day concepts of biochemistry.

Prerequisite: Biochemistry 100a.

Messrs. Grossman and Soodak

BIOCHEMISTRY 200a and b. Biochemistry Techniques

Students registered for this course will participate for a period of approximately six weeks in several research programs being conducted by the staff members.

Prerequisite: Biochemistry 100a (may be taken concurrently) and consent of the department. *Mr. Grossman and Staff*

BIOCHEMISTRY 201. Physical Biochemistry

Measurements of free energy; kinetics; discussion of physical methods: molecular weight measurements, electrophoresis, spectroscopic techniques, magnetic methods.

Prerequisite: Biochemistry 100a; Physical Chemistry.

Mr. Timasheff and Staff

***BIOCHEMISTRY 202b. Chemistry of Enzyme-Catalyzed Reactions**

A discussion of the chemistry of certain enzyme-catalyzed reactions compared to the corresponding uncatalyzed or chemically catalyzed reactions. Some consideration of the mechanisms through which enzymes may exert their catalytic effects.

Prerequisites: Chemistry 131 and biochemistry 101, or equivalent, taken previously or concurrently.

BIOCHEMISTRY 203a. Molecular Biology**BIOCHEMISTRY 204b. Metabolism in Relation to Function**

This course is to introduce the student to physiology. Circulation, digestion, excretion, excitation and homeostatic control mechanisms will be discussed. Where possible, physiological function will be related to cellular metabolism.

Prerequisite: Biochemistry 100a.

***BIOCHEMISTRY 205a. Biochemical Genetics**

Recent advances in the chemistry of inheritance will be discussed with emphasis on recombination, transformation and transduction phenomena in microorganisms. The problem of gene function, and enzyme formation and function, will be considered together with the contribution of microbial and animal mutants to the study of metabolic pathways.

Prerequisite: Biochemistry 100a (may be taken concurrently).

***BIOCHEMISTRY 206a. The Nucleic Acids**

Chemical and physical properties of the nucleic acids and monomeric units will be examined. Current chemical and enzymatic polymerization pathways and the biochemical roles of nucleic acids in protein synthesis, virus replication and genetic coding will be discussed.

Prerequisite: Biochemistry 100a, 101a and b.

BIOCHEMISTRY 207b. Immunochemistry

Mode and mechanism of antigen-antibody interaction; application of immunochemical methods to the estimation and characterization of proteins, polysaccharides, nucleic acids and natural proteins with biological activity such as enzymes and hormones. *Mr. Levine*

BIOCHEMISTRY 208b. Metabolic Regulation

Regulation of rates of enzyme reactions, regulation of enzyme levels, rate of determining steps in metabolic pathways, control phenomena such as the Pasteur effect and the regulation of fat synthesis. *Mr. Lowenstein*

***BIOCHEMISTRY 210. Protein Chemistry**

The following will be discussed: chemical and physical properties of proteins, peptides, and amino acids; methods of determination of molecular weight, purity, and structure and isolation techniques.

Prerequisite: Biochemistry 100a and one year of physical chemistry.

***BIOCHEMISTRY 212b. Neurochemistry**

The special chemistry and biochemistry of nervous tissue, both central and peripheral, will be discussed. Emphasis will be placed on lipid chemistry as well as on nucleic acid and protein synthesis in the nervous system. Nerve conduction; vision; the effects of neurotropic agents on the enzymatic mechanisms of the brain will be presented.

Prerequisite: Biochemistry 100a (may be taken concurrently).

Seminars

One or two seminars will be given each semester. Each student will present an oral and written report on one aspect of the following topics:

BIOCHEMISTRY 215a. Structure and Functional Specificity of Macromolecules**BIOCHEMISTRY 216a. Biochemical Aspects of Differentiation and Growth*****BIOCHEMISTRY 217a. The Nucleic Acids****BIOCHEMISTRY 218a. Biochemical Studies with Mammalian Viruses and Cultured Cells** *Mr. Murakami***BIOCHEMISTRY 219b. Mechanism of Enzyme Action**

Messrs. Abeles and Jencks

BIOCHEMISTRY 220a. Problems in Biosynthesis**BIOCHEMISTRY 222a. Oxidative Phosphorylation****BIOCHEMISTRY 223a. Structure, Metabolism, and Function of Hormones**

Miss Leeman

BIOCHEMISTRY 224b. Physiology of Mammalian Cells*BIOCHEMISTRY 225b. Genetics**

Mr. Freifelder

BIOCHEMISTRY 226b. Neurosciences*BIOCHEMISTRY 227a. Selected Topics in Protein Chemistry**

Miss Van Vunakis and Mr. Fasman

* Not to be given in 1969-70.

BIOCHEMISTRY 401–414. Biochemical Research Problems

Independent research for the Ph.D. degree.

401. *Mr. Jencks*

408. *Mr. Grossman*

402. *Mr. Levine*

409. *Mrs. Leeman*

403. *Mr. Loomis*

410. *Mr. Soodak*

404. *Mr. Timasheff*

411. *Miss Van Vunakis*

405. *Mr. Abeles*

412. *Mr. Freifelder*

406. *Mr. Fasman*

413. *Mr. Hollocher*

407. *Mr. Lowenstein*

414. *Mr. Murakami*

Journal Club, Colloquia, and Research Clubs

In addition to the formal courses announced above, all graduate students are encouraged to participate in the department's Journal Club and colloquia. The Journal Club is an informal meeting of the students, staff and post-doctoral fellows, where recent publications are discussed. Colloquia are general meetings of the department in which both speakers from the department and guest speakers will present their current investigations. Research clubs are organized by various research groups of the department.

Biology

Objectives

The graduate program in biology is designed to give the student an understanding of the fundamental nature of living processes, and to train him to undertake original research.

The department rarely admits a graduate student who desires a Master's degree. Such candidates may, however, be admitted at the discretion of the faculty as exceptional cases. A Master of Arts degree may be granted on completion of a designated program to be arrived at after consultation with the graduate adviser.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology at this institution. These are: general biology, genetics, cell physiology, developmental biology, and at least two additional elective courses. Students who are deficient in some of these subjects, but whose records are otherwise

superior, may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

It is strongly recommended that applicants take the Graduate Record Examination.

On being admitted to the Biology Department, each graduate student will report to the temporary graduate student adviser who will assist the student with his formal entry into the department and later with his program.

An important part of graduate training consists of laboratory experience. Since the summer months provide an opportunity for such work, unbroken by courses and other responsibilities, it is customary for graduate students to spend their summers doing research. In recognition of this, the Biology Department provides summer stipends for its full-time graduate students.

Faculty

Associate Professor ATTILA O. KLEIN, *Chairman*: Plant development and metabolism.

**Professor HERMAN T. EPSTEIN: Radiation biology. Virus genetics.

Professor MARTIN GIBBS, *Graduate Adviser*: Photosynthesis and plant physiology.

Professor ALBERT KELNER: Genetics. Microbial genetics. Radiation biology.

Professor JEROME A. SCHIFF: Plant biochemistry and physiology. Intracellular development. Sulphur metabolism.

***Professor MAURICE SUSSMAN: Microbiology. Cellular differentiation. Microbial genetics.

Professor ANDREW G. SZENT-GYORGYI: Chemistry of muscle contraction. General physiology.

Professor EDGAR ZWILLING: Vertebrate development. Tissue interactions.

***Associate Professor CHANDLER M. FULTON: Invertebrate development. Cellular differentiation.

Assistant Professor DAVID H. GILLESPIE: Microbial and molecular genetics.

** On Leave, Fall Term, 1969-70.

*** On Leave, Spring Term, 1969-70.

Assistant Professor HERBERT OBERLANDER: Endocrinology and post-embryonic development of insects.

Assistant Professor GJERDING OLSEN: Animal physiology. Endocrinology.

Assistant Professor RAYMOND E. STEPHENS: Chemistry of cell division. Biological motility.

Degree Requirements

Master of Arts

Program of Study. The program leading to the M.A. degree in biology focuses primarily on the research capability of the student. Specifically, the primary requirement for the degree is the completion of a thesis based on original laboratory work which is acceptable to the department. In general, the preparation for an original research problem will necessitate the enrollment of a student in course work. The specific number and types of courses will vary, depending on the ultimate research problem, and will be prescribed by the department. The candidate must, however, complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of twenty-four semester hours of approved study.

By the end of the first year, each graduate student will choose a specific field of interest and will apply to the chairman of the department for a permanent adviser to be assigned by the department. This adviser will serve as the chairman of a committee of at least three departmental staff members, which will advise the student on courses to be taken and guide him throughout the thesis problem.

The thesis requirement may be waived under exceptional circumstances and only with the approval of the department staff.

Language requirements. All candidates are required to demonstrate a reading knowledge of French or German, or another foreign language acceptable to the department. An examination demonstrating reading ability in the foreign language must be taken prior to the completion of thesis work.

Qualifying Examination. As the discretion of the student's advisory committee, a qualifying or comprehensive examination may be required.

Doctor of Philosophy

Program of Study. All students will be expected to obtain a knowledge of the principles and techniques of the areas of genetics, morphology, physiology and development before taking the qualifying examination. The background a student is expected to have in these areas is equivalent to the course contents of Biology 101b, 200a and b, 202a, 204b, and Biochemistry 100a, 101. Entering students will be encouraged to take Biology 300a and b. The

student will be expected also to have additional background in his area of specialization as well as experience in seminar and research courses to be designated.

Each student will choose his specific field of interest and will apply to the chairman of the department for a permanent adviser to be assigned by the department before the end of the second year. The adviser will assist the student in planning a well-balanced program in his specific field of interest. In addition, the adviser will ordinarily serve as the chairman of the student's proposition committee, proposition examining committee and dissertation examining committee.

Language requirement. A reading knowledge of French and German, or another language acceptable to the department, is required. At least one of these requirements must be met before the student completes the first year of graduate study and before he is admitted to candidacy.

Qualifying Examination. Ordinarily this examination will be taken on the recommendation of the student's adviser and should be completed before active dissertation work is initiated. The student's major adviser will appoint two other faculty members to serve as the student's proposition committee. The student will submit seven propositions encompassing the four core areas with no more than two propositions in any one area. Each proposition should be a proposal or hypothesis subject to debate. The proper form in which the propositions are to be submitted will be designated by the department. (See department secretary for suggested format and instructions.) The student will be examined orally on at least three of the seven acceptable propositions by the three members of the propositions committee plus two additional faculty members.

Admission to Candidacy. To be admitted to candidacy, the student must have (a) passed at least one foreign language examination, (b) passed the qualifying examination, (c) shown a capacity for independent research, (d) been accepted by a graduate adviser.

Dissertation and Defense. Each student will conduct an original investigation. *It is strongly recommended that the dissertation research be deferred until the student has fulfilled requirements for admission to candidacy.* With the approval of the student's adviser, however, research courses may be elected at any time. After admission to candidacy, a dissertation committee will be appointed by the chairman of the department. It will consist of at least three staff members headed by the student's permanent adviser. This committee must approve the candidate's subject of research, will guide his research activities toward the doctoral dissertation and, in addition, will read and evaluate the completed dissertation. After submission of the dissertation, the candidate will be expected to present the principal results of his work and its significance during an examination in defense of the dissertation.

Courses of Instruction

BIOLOGY 101b. Comparative Physiology of Animals

An intensive comparison will be presented of the mechanisms which diverse organisms have evolved to deal successfully with similar environmental challenges. Similarities and dissimilarities in the processes operating to regulate metabolism, reproduction, sensitivity and reactivity in animals will be studied.

Prerequisites: Biology 31a and 41b or the equivalent.

Three classroom and three laboratory hours a week. *5 credits.* Mr. Olsen

*BIOLOGY 124a. Virology

*BIOLOGY 150b. Physical and Mathematical Bases of Molecular Biology

BIOLOGY 200a. Cell Structure and Function

Molecular architecture of the living cell and its relationship to life processes. The generalized cell, the cell in division, and the specialized cell will be considered from the viewpoint of classical cytology and also in terms of current biochemical, optical, and electron-optical studies.

Prerequisite: Permission of the instructor.

Three classroom hours a week; optional laboratory.

5 credits with laboratory; *4 credits* without laboratory. Mr. Stephens

BIOLOGY 200b. Problems in Animal Morphogenesis

A seminar discussion of problems encountered in studies of animal development. Current and older literature on designated topics will be evaluated.

Prerequisite: Biology 40a or the equivalent. Mr. Zwilling

*BIOLOGY 202a. Gene Structure and Function

*BIOLOGY 204b. The Cellular Basis of Development

BIOLOGY 245a. Selected Topics in Plant Metabolism

A discussion of those areas of physiology and biochemistry to which plants lend themselves as experimental objects. Conspicuous examples are photosynthesis, photomorphogenesis, nitrogen fixation, and the biosynthesis of natural products such as anthocyanins, flavonoids, isoprenoids, phenols, terpenes, etc.

Three classroom hours a week. *2 credits.*

Mr. Gibbs

BIOLOGY 245b. Comparative Physiology and Biochemistry of Plants

See Biology 245a.

Messrs. Klein and Schiff

Courses in Research

BIOLOGY 300a and b. Biological Research

Primarily for the first year student with the purposes of introducing him to biological research and to the work in progress in the laboratories of a number of faculty members. In consultation with the graduate adviser, the student plans a sequence of such tenures, each comprising six weeks or more, and then carries out experimental investigations under the guidance of the faculty members involved.

Credits to be arranged.

Mr. Gibbs and Staff

BIOLOGY 400. Biophysics of Microorganisms

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Epstein

BIOLOGY 401. Genetics and Microbiology

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Kelner

*BIOLOGY 402. Population Genetics and Mathematical Genetics

BIOLOGY 403. Microbial Genetics

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Gillespie

BIOLOGY 404. Vertebrate Physiology

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Olsen

BIOLOGY 405. Invertebrate Development

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Fulton

BIOLOGY 406. Plant Physiology

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Schiff

BIOLOGY 407. Insect Endocrinology and Development

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Oberlander

BIOLOGY 408. Differentiation and Genetics

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Sussman

BIOLOGY 409. Vertebrate Development

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Zwilling

BIOLOGY 410. Plant Development

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Klein

BIOLOGY 411. Cytology

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Stephens

BIOLOGY 412. Plant Metabolism

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Gibbs

BIOLOGY 413. General Physiology

Laboratory hours and credits to be arranged.

Laboratory fee: \$25.

Mr. Szent-Gyorgyi

* Not to be given in 1969-70.

Biology Journal Clubs

There will be a number of informal Journal Clubs which will deal with various topics of concern to the various specialties. These will meet regularly under the auspices of staff members. Students, depending upon their individual needs, may be required to attend.

Biophysics

Objectives

The interdepartmental graduate program in biophysics, leading to the degree of Doctor of Philosophy, is designed to give the student a broad understanding of the physico-chemical nature of living processes and to train him to carry out independent research. In addition to basic courses in cellular biology, the student will be expected to obtain a broad background in the supporting disciplines of biochemistry, biology, chemistry, physics, and mathematics. After completion of this program, the student's remaining course work will be in an area of biophysics in which a faculty member is doing research. Some areas in which research is now being actively pursued are photobiology, radiobiology, virus reproduction and muscle contraction.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to applicants for admission to this area of study. Applicants are also required to take the Graduate Record Examination. The student's undergraduate program should, ideally, include organic and physical chemistry, atomic and nuclear physics, differential equations, and courses in cellular biology. Inasmuch as most students will be deficient in some respects, it is expected that deficiencies may be made up by taking the appropriate courses while in Graduate School. If a petition is approved, the successful completion of some of these courses may be credited as part of the graduate program. On being admitted to study in biophysics, the student will be assigned to a member of the Biophysics Committee, who will advise the student on a program of courses. This program should be submitted for approval to the committee by the beginning of the second term of residence.

Faculty

Professor HENRY LINSCHITZ (Chemistry), *Chairman*; Professors EUGENE P. GROSS (Physics), ANDREW G. SZENT-GYORGI (Biology), SERGE N. TIMASHEFF (Biochemistry); Associate Professor THOMAS C. HOLOCHER (Biochemistry).

Degree Requirements

Doctor of Philosophy

Program of Study. The following are five areas in which competency at more than a minimal level is expected of a candidate for a Ph.D. in Biophysics:

1. Biology through cell structure and function, genetics, development, and molecular biology.
2. Classical physics and modern physics through the basic ideas of quantum mechanics. Computer programming.
3. Organic chemistry and physical chemistry including thermodynamics.
4. Biochemistry including enzyme mechanisms.
5. Mathematics through elementary differential equations.

Language Requirements. A reading knowledge of German and French is required. Russian may be substituted for one of these languages if the advisory committee determines that it is useful for a student in his particular field of research.

Qualifying Examination. A student should have completed the program of study not later than the end of his second year in residence so that he may be able to take a qualifying examination covering this material.

Dissertation and Defense. Upon passing this examination, the student will select a dissertation supervisor and formally initiate research and course study in the research area of his supervisor. Additional credits may be taken from among graduate courses and seminars, as approved by the student's research supervisor and advisory committee. This committee will be appointed by the dissertation supervisor, subject to the approval of the Biophysics Committee. When the student and the dissertation supervisor have agreed on the research project, a brief description of the project must be filed with each of the members of the advisory committee.

After completing the research and the dissertation, the candidate will present and discuss the results and significance of his work during an examination in defense of his dissertation.



Courses of Instruction

BIOPHYSICS 300a and b. Biophysical Techniques

All entering students normally register for this course and will thereby participate for periods of about ten weeks in the research programs of each of five or six staff members selected from the departments of Biochemistry, Biology, Chemistry and Physics.

Staff

Chemistry

Objectives

The graduate program in chemistry, comprising course work, seminar participation, and research, is designed to lead to a broad understanding of the subject. The graduate program leads to the M.A. and Ph.D. degrees in chemistry. The Ph.D. is offered with specializations in inorganic, organic, physical and physical-organic chemistry. All students will be required to demonstrate knowledge in advanced areas of inorganic, organic and physical chemistry. The doctoral program is designed to be flexible so that individual programs of study may be devised to satisfy the particular interests and needs of each student. In each case this program will be decided by joint consultation between the student and the Departmental Committee of Graduate Studies and the thesis supervisor when selected. The doctoral program will normally include a basic set of courses in the student's own area of interest, this to be supplemented by advanced courses in chemistry and, where appropriate, in biochemistry, biology, mathematics and physics.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. In addition, the undergraduate curriculum of applicants should include courses in physics and mathematics (differential and integral calculus), and courses in general and inorganic, analytical, organic and physical chemistry.

Admission to advanced courses will be based upon results of a qualifying examination in each of these areas of chemistry, which will be taken upon entrance. These examinations will determine whether the student will be required to make up deficiencies in preparation. The results of the qualifying examinations will be considered in the assignment of awards for the subsequent years of graduate study.

Faculty

Professor SAUL G. COHEN, *Chairman*: Chemistry of free radicals; organic photochemistry; specificity and mechanism of reactions of enzymes.

Professor PAUL B. DORAIN: Electron paramagnetic resonance; exchange interactions and optical spectra of crystalline materials.

Professor SIDNEY GOLDEN: Quantum statistical theory of chemical kinetics; many body problems and atomic and molecular structure; statistical mechanics of ion solvation.

Professor ERNEST GRUNWALD: Ultra-fast proton transfer steps in acid base reactions; lifetimes of hydrogen-bonded complexes in solution; enthalpy, entropy and heat capacity changes for polar reactions in solution.

***Professor JAMES B. HENDRICKSON: Chemistry of natural products, particularly alkaloids and sesquiterpenes; chemical plant phylogeny; stereochemistry and molecular geometry; development of new synthetic reactions.

Professor HENRY LINSCHITZ: Reactions of excited molecules; stabilization of free radicals; photo-ionization in solution and properties of solvated electrons; metal complexes; physical mechanisms of photobiological processes.

Professor MYRON ROSENBLUM, (*Graduate Student Adviser*): Reaction mechanisms; molecular rearrangements; organometallic chemistry of the transition elements.

Professor ROBERT STEVENSON: Isolation and structure of natural products; lignan synthesis; molecular rearrangements in triterpenoids and steroids.

Associate Professor MICHAEL J. HENCHMAN, (*Graduate Student Adviser*): Gas kinetics under "single collision" conditions; dynamics of molecular collision processes.

Associate Professor KENNETH KUSTIN: Study of fast reactions in solution by relaxation techniques; mechanisms of inorganic reactions; enzyme kinetics.

*** On Leave, Spring Term, 1969-70.

*Associate Professor COLIN STEEL: Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions.

Associate Professor THOMAS R. TUTTLE, JR.: Electron distribution in ion radicals by electron spin-resonance; molecular motions in solutions; properties of metal solutions in ammonia and other solvents.

Assistant Professor PETER C. JORDAN: Statistical mechanical theory of fluids; non-equilibrium statistical mechanics and thermodynamics; quantum chemistry.

Instructor WILLIAM R. VITALE: New carbo- and heterocyclic-conjugated molecules; electron-deficient π -systems; synthetic and theoretical organic chemistry.

Degree Requirements

Entering students may be admitted to either the Master's or the Doctoral program.

All candidates for advanced degrees are required to meet the following requirements:

Qualifying Examinations. Each student is required to demonstrate satisfactory knowledge of undergraduate chemistry. This is shown by his performance in three qualifying examinations, one each in organic/analytical, organic and physical chemistry during his first year. These examinations are set twice a year, in September and February.

Language Requirements. Each student is obliged to demonstrate a useful reading knowledge of scientific German.

Seminar. Each student in residence is required to attend and participate in the seminar in his chosen area of concentration.

Teaching. It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

Master of Arts

Program of Study. Each candidate is required to complete successfully one year of study at the graduate level in chemistry, or, with prior permission of the Departmental Graduate Studies Committee, in related fields. The

* On Leave, 1969-70.

program will include laboratory work. The detailed program of study will be one jointly arrived at by the candidate and the Graduate Studies Committee to reflect the candidate's area of interest as well as a perspective of other areas.

Residence Requirements. The minimum residence requirement for the M.A. degree is one year.

Doctor of Philosophy

Program of Study. A balanced program of study will be prepared jointly by the student and the Departmental Graduate Studies Committee. This will normally include a basic core of course work in his area of interest and later more specialized courses appropriate to it. It is expected that doctoral students will choose a research adviser during the first year, normally in February. A student who satisfactorily completes his first year of study in the Doctoral program qualifies for the Master's degree.

Admission to Candidacy. A student is recommended for admission to candidacy for the doctoral degree upon certification by his thesis adviser and the Graduate Studies Committee that he has passed the qualifying and language examinations and has made satisfactory progress in his program of study and the final Ph.D. examinations.

Final Examinations. The graduate student must demonstrate his proficiency by taking final examinations in his major field, organic, physical-organic, physical, or inorganic chemistry. In organic chemistry and in physical-organic chemistry, these examinations are administered twice a year and are based on assigned readings. Students must pass three of these examinations and must maintain satisfactory progress toward this end. In physical chemistry and inorganic chemistry, generally during the third semester of graduate work, the student is assigned a set of three propositions. He takes a written examination on one proposition, and is examined orally on the remaining two. In inorganic chemistry the student is also examined on his proposed research.

Residence Requirements. The minimum residence requirements for the Ph.D. degree is two years.

Dissertation and Defense. A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability, and effectiveness of expression. An oral defense of the dissertation will be held.

Courses of Instruction

*CHEMISTRY 110b. Analytical Chemistry

Principles and techniques involved in modern chemical analysis. Application of modern instrumental methods to the study of chemical and physical processes. Techniques used include polarography, spectroscopy, chromatography.

Prerequisite: Chemistry 41 or the equivalent.

Two lecture and six laboratory hours a week. *5 credits.*

Laboratory fee: \$15.

CHEMISTRY 121a. Inorganic Chemistry I

Introduction to the principles of chemical binding; valence theory, periodic properties, molecular structures. Application chiefly to the chemistry of the lighter and non-metallic elements.

Inorganic synthesis and analysis; synthetic techniques include vacuum line, high temperature, non-aqueous and electrochemical preparations. Instrumental methods of analysis.

Graduate students may take the lectures of this course without the laboratory.

Prerequisite: Chemistry 41 or consent of the instructor.

Three lecture hours a week, *4 credits*; six laboratory hours a week, *2 credits.*

Laboratory fee: \$15.

To be announced

CHEMISTRY 122b. Inorganic Chemistry II

A continuation of the lecture part of Chemistry 121a, dealing with the transition metal, rare earth and actinide elements.

Prerequisite: Chemistry 121a or the equivalent.

To be announced

*CHEMISTRY 123b. Nuclear Chemistry

Nuclear reactions, radioactive decay, interaction of radiation and matter, chemical applications of isotopic tracers, Mössbauer Spectroscopy, Positronium Chemistry and Cosmochemistry.

Prerequisite: Chemistry 41 or the equivalent.

CHEMISTRY 130a. Advanced Organic Chemistry: Structure

Application of physical and spectroscopic methods to the elucidation of "structure and stereochemistry" of organic compounds, with particular emphasis on ultraviolet, infrared, nuclear magnetic resonance and mass spectrometry.

Prerequisite: Chemistry 25 or the equivalent.

Mr. Rosenblum

*CHEMISTRY 131b. Advanced Organic Chemistry: Mechanisms

Kinetics, stereochemistry and mechanisms of organic reactions.

Prerequisites: Satisfactory grades in Chemistry 25 and 41 or the equivalent.

CHEMISTRY 132a. Advanced Organic Chemistry: Synthesis

A survey of several organic reactions of theoretical and synthetic interest including a discussion of their application, scope, specificity and mechanism.

Prerequisite: Satisfactory grade in Chemistry 25 or the equivalent.

Mr. Hendrickson

* Not to be given in 1969-70.

CHEMISTRY 141a and b. Advanced Physical Chemistry I

Classical, statistical, irreversible thermodynamics and chemical kinetics. Properties of real systems: gases, phase stability, chemical equilibrium and solutions. Statistical equilibrium, ensembles and fluctuations. Microscopic reversibility and regression of fluctuations, reciprocal relations, hydrodynamic equations. Rate laws and approach to equilibrium; scattering and energy transfer. Gas and solution kinetics. Surface reactions.

Prerequisite: Chemistry 41 or the equivalent.

Mr. Jordan, 1st sem.

Messrs. Henchman and Kustin, 2nd sem.

CHEMISTRY 142a and b. Advanced Physical Chemistry II

Quantum mechanics: waves and wave packets, operator methods, Schrodinger's equation, simple model systems, angular momenta, perturbation theory and variational principle. Quantum chemistry: spin, atomic and molecular structure, spectroscopy, chemical binding, advanced topics.

Prerequisite: Chemistry 41 or the equivalent.

Mr. Golden, 1st sem.

Mr. Jordan, 2nd sem.

CHEMISTRY 144a. Structure and Spectroscopy

Interaction of radiation with matter and its relevance to molecular structure. Topics will be selected from: X-ray and electron diffraction; microwave nmr, infra-red, visible and ultraviolet absorption; molecular beam and mass spectrometry.

Mr. Tuttle

CHEMISTRY 200. Advanced Chemistry Laboratory

Staff

CHEMISTRY 220c. Inorganic Chemistry Seminar

A seminar course. Required of graduate students in inorganic chemistry who must audit this course each year.

To be announced

***CHEMISTRY 221a. Advanced Inorganic Chemistry I**

Inorganic reaction mechanisms: Substitution, exchange, polymerization, redox, hydrolytic and solvolytic reactions; inorganic stereochemistry.

Prerequisite: Chemistry 141a and b.

CHEMISTRY 222a. Advanced Inorganic Chemistry II

Theoretical inorganic chemistry: Atomic structure and the application of group theory to inorganic compounds, particularly the transition metals; ligand field theory.

Corequisite: Chemistry 142a and b.

Chemistry 221 and Chemistry 222 are given in alternate years.

Mr. Dorain

***CHEMISTRY 229b. Special Topics in Inorganic Chemistry**

The content will depend on the interests of the instructor.

CHEMISTRY 230b. Advanced Organic Chemistry: Mechanisms

Kinetics, stereochemistry and mechanisms of organic reactions.

Prerequisite: Satisfactory grade in Chemistry 130a or 131 or 132a.

Mr. Cohen

CHEMISTRY 231c. Organic Chemistry Seminar

Required of graduate students in organic chemistry who must audit this course each year.

Messrs. Hendrickson, Rosenblum and Stevenson

***CHEMISTRY 232b. Chemistry of Heterocyclic Compounds**

A systematic survey of the principal oxygen, nitrogen and sulfur heterocycles of five and six membered and fused ring systems, including their synthesis, chemical reactions and aromatic character.

Prerequisite: Satisfactory grade in Chemistry 131 or the equivalent.

***CHEMISTRY 234b. Chemistry of Organometallic Compounds**

A survey of the complexes formed by transition metals with olefins, acetylenes and aromatic ligands; their preparation, properties and chemical reactions.

Prerequisite: Chemistry 130a or the equivalent.

***CHEMISTRY 235a. Special Topics in Organic Chemistry**

The content will depend on the interests of the instructor.

Prerequisite: Chemistry 130a, or 131, or 132a or consent of the instructor.

CHEMISTRY 237b. The Chemistry of Natural Products

Isolation, structure elucidation, degradation and synthesis of selected classes of natural products.

Prerequisite: Chemistry 130a, or 131, or 132a.

Mr. Stevenson

CHEMISTRY 240c. Physical-Organic Chemistry Seminar

Required of graduate students in physical-organic chemistry who must audit this course each year.

Messrs. Cohen and Grunwald

CHEMISTRY 241c. Physical Chemistry Seminar

Required of graduate students in physical chemistry who must audit this course each year.

Mr. Jordan

***CHEMISTRY 243b. Statistical Thermodynamics**

Elementary statistical mechanics of systems in equilibrium; Boltzmann, Fermi-Dirac and Bose-Einstein statistics; microcanonical, canonical and grand canonical ensembles; applications to thermodynamic systems.

CHEMISTRY 244a. Special Topics in Physical Chemistry**CHEMISTRY 244b. Special Topics in Physical Chemistry****CHEMISTRY 245a. Physical Organic Chemistry**

A quantitative discussion of rates and equilibria of organic reactions.

Mr. Grunwald

CHEMISTRY 248a. Advanced Quantum Chemistry

Selected aspects of quantum mechanics of molecular systems.

Prerequisite: Chemistry 142 or the equivalent.

Mr. Golden

* Not to be given in 1969-70.

CHEMISTRY COLLOQUIUM

Lectures by faculty and invited speakers. Required of all graduate students.
Non-credit.

Courses in Research

CHEMISTRY 400. Organic Chemistry and Physical Organic Chemistry

Reaction mechanisms; radiation chemistry; free radicals; photochemistry; enzyme reactions. *Mr. Cohen*

CHEMISTRY 401. Organic Chemistry

Chemistry of natural products; steroids, triterpenoids, lignans. *Mr. Stevenson*

CHEMISTRY 402. Organic Chemistry

New carbo- and heterocyclic-conjugated molecules; electron-deficient π -systems; synthetic and theoretical organic chemistry. *Mr. Vitale*

CHEMISTRY 403. Organic Chemistry

Non-benzenoid aromatics: molecular rearrangements; reaction mechanisms; organometallics. *Mr. Rosenblum*

CHEMISTRY 404. Organic Chemistry

Chemistry of natural products; stereochemistry and molecular geometry; development of new synthetic reactions. *Mr. Hendrickson*

CHEMISTRY 405. Physical Chemistry

Chemical kinetics of elementary reactions; statistical theory of atomic and molecular structure; statistical mechanics of electrolytic solutions; physical chemistry of metal-ammonia solutions. *Mr. Golden*

CHEMISTRY 406. Physical Chemistry

Reactions of excited molecules; luminescence; electron solvation; metal complexes; physical mechanisms of photobiological processes. *Mr. Linschitz*

CHEMISTRY 407. Physical and Inorganic Chemistry

Electron paramagnetic resonance; optical spectra; solid state chemistry.

Mr. Dorain

CHEMISTRY 408. Physical Chemistry

Electron spin resonance; structure of free radicals; diffusion in liquid solutions; chemistry of electrolytic solutions. *Mr. Tuttle*

CHEMISTRY 409. Inorganic Chemistry

Kinetics and mechanisms of inorganic reactions; experimental study of fast reactions including enzyme catalysis by the temperature-jump and other relaxation techniques. *Mr. Kustin*

CHEMISTRY 410. Physical and Inorganic Chemistry

CHEMISTRY 411. Physical Chemistry

Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions.

Mr. Steel

CHEMISTRY 412. Physical and Physical Organic Chemistry

Ultra-fast proton transfer steps in acid base reactions; enthalpy, entropy and heat capacity changes for polar reactions; lifetimes of hydrogen-bonded complexes in solution.

Mr. Grunwald

CHEMISTRY 413. Physical Chemistry

Theory of fluids; theory of non-equilibrium processes; quantum chemistry.

Mr. Jordan

CHEMISTRY 414. Physical Chemistry

Collision cross-sections, dynamics and lifetimes of ion-neutral processes in the gas phase using beam techniques; charge transfer; elastic and inelastic scattering.

Mr. Henchman

Comparative History

Objectives

The graduate program in Comparative History, leading to the degree of Doctor of Philosophy in History, has been designed to train professional scholars and teachers of European history. Comparative history is the conceptualization and study of the past according to political, social, economic, cultural and psychological categories that transcend traditional period and national divisions.

A small select student body will work in close cooperation with the faculty. All teaching will be done in small seminars and tutorials. Individual programs of study will be developed from the beginning of the students' graduate work in comparative history to prepare them for their oral qualifying examination and to guide them toward their dissertation research.



The program will concentrate on the comparative history of Western Europe, but students will be strongly encouraged to examine the patterns of European history in comparison with those of American civilization, Eastern Europe, Latin America, Africa and the Near and Far East.

Students in the program will be trained in two fields: one a very broad chronological field, the other a topical or category field. The three chronological fields or periods are: (1) medieval Europe 300–1500, (2) early modern 1400–1815, (3) modern Europe 1750–present. Students will elect one of these periods and will be allowed to concentrate on more narrowly defined eras and areas within the chosen field.

The student will choose, under guidance, a category of comparative historical inquiry and will be required to study it throughout the whole of European history and, within practical limits, in other civilizations.

It is expected that the doctorate will be earned within four years from entering the program. The maximum time allowed will be six years.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. Only doctoral candidates will be accepted. Students who have had a sound preparation in history and the social sciences and who have demonstrated unusual imagination and critical insight will receive special consideration. Undergraduate majors in the social sciences or in comparative literature may also apply. Applicants should submit a sample of written work, preferably in European history.

Faculty

Professor EUGENE C. BLACK, *Chairman*: Modern history. Political and social institutions.

Professor GEOFFREY BARRACLOUGH: Modern and medieval history. Political institutions.

Professor DAVID S. BERKOWITZ: Early modern history. Bibliography. The Reformation.

Professor RUDOLPH BINION: Modern history. Culture and thought. Biography.

Professor NORMAN F. CANTOR: Medieval history. Political institutions.

Professor FREDERIC C. LANE: Early modern and medieval history. Economic institutions.

Assistant Professor MARSHALL S. SHATZ: Modern history. Eastern Europe. Political and social institutions.

Assistant Professor GERALD L. SOLIDAY: Early modern history. Social institutions.

Assistant Professor CHUNG-CHI WEN: East Asian political and social institutions.

Degree Requirements

Master of Arts

An M.A. degree in History will be awarded those students who have satisfactorily completed one year of residence at full-time, fulfilled the language requirement, and have passed a qualifying examination at the Master's level.

Doctor of Philosophy

Soon after entering, the student will be assigned to a member of the faculty who will be his period supervisor. In addition, during the first term, he will work independently with another assigned faculty member who will help him define his category field.

Program of Study. During the first two years in the program, students will take four courses each term, divided between seminars, and supervised independent study or reading courses.

The third year in the program will, when feasible, be spent in Europe pursuing research for the dissertation. Arrangements will be made for conferences with European scholars who can advise on the subject of the research.

Language Requirement. The use of foreign languages is an essential tool for the comparative historian. Each student will be expected to pass at least one language examination during his first month in the program, the second one no later than the end of the second semester. Language requirements are:

Medieval: French, German, Latin

Early Modern and Modern: French and German

Students with any language deficiency must remedy it during the summer prior to admission. The Latin examination will presume the equivalent of two years of college work; French and German require a capacity to read standard historical prose and render a literal translation with the aid of a dictionary.

Qualifying Examination. The student will normally take the oral qualifying examination at the end of the second year of study. He will be examined on one period, one category, and his proposed dissertation topic.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree when he has completed course and residence requirements, has demonstrated a high level of proficiency in the required foreign languages, has passed the qualifying examination, and his dissertation topic has been approved by the faculty of the program.

Dissertation and Defense. In the term preceding the qualifying examination, the student will define his dissertation topic under the direction of a first and second sponsor and will begin his research. When the dissertation has been accepted by the student's dissertation committee, the candidate will defend it at a final oral examination.

Courses of Instruction

Seminars

COMPARATIVE HISTORY 201a. Introduction to Comparative History

Introduction to the methods, concepts and literature of comparative history and the professional study of history in general.

Required for all first year students.

Mr. Cantor and Staff

COMPARATIVE HISTORY 229b. Venice and the Beginnings of Capitalism

An introduction to the study of late medieval and early modern capitalistic institutions.

Mr. Lane

COMPARATIVE HISTORY 250b. The Age of the Democratic Revolution

Political, social and economic changes in the late eighteenth and early nineteenth centuries in Western Europe and America. An examination of the literature and major research problems.

Messrs. Black and Fischer

COMPARATIVE HISTORY 260a. Nineteenth Century Industrial Society

Urbanization and industrialization as categories in comparative history.

Mr. Black

COMPARATIVE HISTORY 270a. Nineteenth Century Cultural History

Readings, research and discussion on European culture 1848-1890.

Mr. Binion

COMPARATIVE HISTORY 279b. European Socialism since Babeuf

European socialist thought viewed against the changing historical background.

Mr. Binion

COMPARATIVE HISTORY 285b. The Coming of War

International relations in Europe and the Far East leading up to the outbreak of War.

Mr. Barraclough

COMPARATIVE HISTORY 301–308. Independent Study: Period Field

- | | |
|-----------------------------|-------------------------|
| 301. <i>Mr. Barraclough</i> | 305. <i>Mr. Cantor</i> |
| 302. <i>Mr. Berkowitz</i> | 306. <i>Mr. Lane</i> |
| 303. <i>Mr. Binion</i> | 307. <i>Mr. Shatz</i> |
| 304. <i>Mr. Black</i> | 308. <i>Mr. Soliday</i> |

COMPARATIVE HISTORY 351–359. Independent Study: Category Field

- | | |
|-----------------------------|-------------------------|
| 351. <i>Mr. Barraclough</i> | 356. <i>Mr. Lane</i> |
| 352. <i>Mr. Berkowitz</i> | 357. <i>Mr. Shatz</i> |
| 353. <i>Mr. Binion</i> | 358. <i>Mr. Soliday</i> |
| 354. <i>Mr. Black</i> | 359. <i>Mr. Wen</i> |
| 355. <i>Mr. Cantor</i> | |

COMPARATIVE HISTORY 390.

Supervised independent study while preparing for qualifying examination. The student will register for this course while defining his dissertation topic. *Staff*

COMPARATIVE HISTORY 401–408. Dissertation Research

- | | |
|-----------------------------|-------------------------|
| 401. <i>Mr. Barraclough</i> | 405. <i>Mr. Cantor</i> |
| 402. <i>Mr. Berkowitz</i> | 406. <i>Mr. Lane</i> |
| 403. <i>Mr. Binion</i> | 408. <i>Mr. Soliday</i> |
| 404. <i>Mr. Black</i> | |

In addition, the following courses may be taken as equivalent to Comparative History seminars.

HISTORY 126a. Government and Society in English History (Medieval Period)

HISTORY 126b. Government and Society in English History (Modern Period)

HISTORY 129a. Foundations in Modernity: The New Civilization of Europe, 1450–1700

HISTORY 130a. Revolts and Revolutions in Seventeenth Century Europe

HISTORY 133a. The Development of the European City to 1800

HISTORY 133b. Lord and Peasant in Western Europe before 1800

HISTORY 139a and b. World History of the Last Century

HISTORY 140a and b. History of the University

HISTORY 146b. Topics in German History

HISTORY 190b. Historiography

Contemporary Jewish Studies

Objectives

The graduate program in Contemporary Jewish Studies offers training on the Master of Arts level in various disciplines relating to the history, sociology

and literature of contemporary Jewry. It is designed both for students who intend to devote themselves to teaching and research in contemporary Jewish studies and for those who plan careers in the field of Jewish communal and educational service.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Contemporary Jewish Studies program.

Faculty Executive Committee

Assistant Professor LEON A. JICK, *Chairman*: Near Eastern and Judaic Studies.

Professor NAHUM M. SARNA, *Vice Chairman*: Near Eastern and Judaic Studies.

Professor ALEXANDER ALTMANN: Near Eastern and Judaic Studies.

Professor EGON BITTNER: Sociology.

Professor NAFTALI C. BRANDWEIN: Near Eastern and Judaic Studies.

*Professor ARNOLD GURIN: Social Administration.

Professor BENJAMIN HALPERN: Near Eastern and Judaic Studies.

Professor HAROLD WEISBERG: Philosophy.

Associate Professor ALEX WEINGROD: Anthropology.

Assistant Professor JOSEPH S. LUKINSKY: Near Eastern and Judaic Studies.

Degree Requirements

Master of Arts

Program of Study. The program of study leading to the degree of Master of Arts will consist of a minimum of twenty-four course credits and a Master's thesis. It is expected that the Master of Arts degree will be earned in two years, but in special instances, one year will suffice. Normally, students will find it necessary to accomplish more than twenty-four course credits in order to insure adequate preparation for the degree.

* On Leave, 1969-70.

Residence Requirement. The minimum residence requirement for the Master of Arts degree is one year.

Language Requirement. A candidate must demonstrate a basic knowledge of Hebrew or Yiddish which can, if necessary, be accomplished by successful completion of one year's study at Brandeis.

Courses of Instruction

- CJS 21. Introductory Yiddish
See N.E.J.S. 21. *Mr. Szulkin*
- CJS 24. Intermediate Yiddish
See N.E.J.S. 24. *Mr. Rothenberg*
- HEBREW 1. Introductory Hebrew *Mr. Fishbane*
- HEBREW 2. Intermediate Hebrew *Mr. Goldsmith*
- HEBREW 10. Introduction to Post Biblical Literature *Mr. Brandwein*
- *CJS 138a and b. Modern Hebrew Literature
See N.E.J.S. 138a and b for description.
- CJS 139a. Major Trends in Modern Hebrew Literature
See N.E.J.S. 139a for description. *Mr. Brandwein*
- *CJS 144a. Political Modernization in the Near East
See N.E.J.S. 144a for description. *Mr. Halpern*
- CJS 147a. The Ottoman Empire and the West
See N.E.J.S. 147a for description. *Mr. Halpern*
- *CJS 149b. Contemporary Social Change in Israel
See N.E.J.S. 149b for description.
- CJS 160a. The American Jewish Experience 1654–1885
A survey of American Jewish history from the earliest settlement to the consolidation by the 19th century German Jewish immigrants of their social, economic and ideological patterns. *Mr. Jick*
- CJS 160b. The Emergence of the American Jewish Pattern—1800 to the Present
The impact of mass immigration from Eastern Europe beginning in the 1880's. The challenge of socialism, Zionism, secular nationalism, and religious reform. The emergence of the institutions, ideologies, life styles and cultural norms which constitute the American Jewish pattern. *Mr. Jick*

* Not to be given in 1969–70.

CJS 163a. The Sociology of the American Jew

The individual, the in-group, and the majority society; minority-group personality development; the Jewish family; patterns of self-segregation, acculturation, and assimilation; religion in American society and in the life of the individual Jew.

Mr. Sklare

CJS 163b. Jewish Communal Structure and Organization

See N.E.J.S. 163b for description.

Mr. Sklare

CJS 166a. Modern Jewish Intellectual History to 1870

See N.E.J.S. 166a for description.

Mr. Halpern

CJS 166b. Modern Jewish Intellectual History since 1870

See N.E.J.S. 166b for description.

Mr. Halpern

CJS 168a. The Culture of East European Jewry

See N.E.J.S. 168a for description.

Mr. Goldsmith

CJS 168b. The Literature of the Holocaust

See N.E.J.S. 168b for description.

Mr. Goldsmith

CJS 171. Modern Yiddish Literature (in Translation)

A survey of the chief figures of Yiddish literature during the past century, with emphasis on the historical and cultural content. The major writers from Mendeleyev, Peretz and Sholom Aleichem to Bashevis Singer and their response to a world in transition.

Mr. Landis

CJS 172a. Seminar in Yiddish Literature: The Works of H. Leivick

See N.E.J.S. 172a for description.

Mr. Goldsmith

CJS 172b. Seminar in Yiddish Literature: Mendeleyev Mokher Seforim,

Sholom Aleichem and Y. L. Peretz

See N.E.J.S. 172b for description.

Mr. Goldsmith

CJS 204a. Topics and Problems in Jewish Education

Selected issues related to the philosophy of Jewish education will be explored.

Mr. Lukinsky

CJS 204b. Conceptual Models for Jewish Education

An examination of models for Jewish education such as religious education, ethnic education and character education with a view to developing a synthesis. A seminar.

Mr. Lukinsky

CJS 235. Readings in Jewish Education

Mr. Lukinsky

English and American Literature

Objectives

The graduate program in English and American literature is designed to offer training in the interpretation and evaluation of literary texts with some attention to the related scholarly disciplines, particularly history and linguistics. It also offers for candidates who have some ability in writing an opportunity to pursue this interest as a normal part of the graduate program.

Admission

Candidates for admission should have a Bachelor's degree, preferably with a major in English and American literature, and a reading knowledge of French, Italian, German, Greek, or Latin. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Faculty

Professor BENJAMIN B. HOOVER, *Chairman*: Eighteenth century literature.

Professor J. V. CUNNINGHAM: Renaissance literature. Poetry.

**Professor EDWARD ENGELBERG: Victorian literature. Modern literature.

Professor VICTOR HARRIS: Seventeenth century literature.

Professor MILTON HINDUS: American literature. Contemporary literature.

*Professor HOWARD NEMEROV: Contemporary literature. Creative writing.

***Professor ROBERT O. PREYER: Victorian literature.

Professor PHILIP RAHV: American literature. Criticism.

Professor AILEEN WARD: Nineteenth century literature.

Associate Professor SACVAN BERCOVITCH: American literature.

Associate Professor ALLEN S. GROSSMAN: Contemporary literature. American literature.

Associate Professor SAMUEL JAY KEYSER: Linguistics. Medieval literature.

Associate Professor JOHN H. SMITH: Renaissance literature.

**Associate Professor PETER SWIGGART: American literature.

* On Leave, 1969-70.
 ** On Leave, Fall Term, 1969-70.
 *** On Leave, Spring Term, 1969-70.

Assistant Professor CHARLES R. BLYTH, JR.: Medieval literature.

Assistant Professor ARLENE L. CLIFT: American literature.

Visiting Assistant Professor ARTHUR EDELSTEIN, (Fall Term): American literature.

Assistant Professor KAREN W. KLEIN: Medieval literature.

** Assistant Professor ALAN LELCHUK: Victorian literature. Creative writing.

* Assistant Professor ALAN L. LEVITAN: Renaissance literature.

Assistant Professor RICHARD S. ONORATO: Romantic literature.

** Assistant Professor DAVID M. PERLMUTTER: Linguistics.

Assistant Professor S. SUSAN STAVES: Restoration literature.

Lecturer HARRISON HOBLITZELLE: Nineteenth century intellectual history.

*** Lecturer JOHN BURT WIGHT: Teacher training.

◦ On Leave, 1969-70.

◦◦ On Leave, Fall Term, 1969-70.

◦◦◦ On Leave, Spring Term, 1969-70.



Degree Requirements

Master of Arts

Program of Study. The program of study will be worked out by the candidate and his adviser, subject to the approval of the departmental Graduate Committee.

Residence Requirement. The minimum residence requirement is one year, though students with inadequate preparation may require more.

Language Requirements. Each student must have a reading knowledge of a major European language, ancient Greek, or Latin.

Major Text Examination. Early in the Spring Term the major text for the year is announced. The examination, given in March, has two parts: written and oral. Together with the text, in its literary and historical context, the student is expected to know some of the pertinent criticism and scholarship.

Doctor of Philosophy

Program of Study. The program of study will be worked out by the candidate and his adviser, subject to the approval of the departmental Graduate Committee.

Admission to Candidacy. Students who complete, with distinction, the M.A. requirements at Brandeis University are admitted to the Ph.D. program. Those who enter with a Master's degree or a full year of graduate work in English from another university are admitted to candidacy, at the Department's discretion, after successful completion of a semester at Brandeis. At that time, up to a year's residence and course credit for work completed elsewhere may be granted.

Language Requirements. The student must have a reading knowledge of two foreign languages. Alternatively, he may offer a thorough competence in a single language and some knowledge of its literature. See the list of languages above under M.A. requirements.

Residence Requirement. The minimum residence requirement is one year beyond the Master's degree or two years beyond the Bachelor's.

Public Lecture. Early in the third year the student will present publicly some aspect of his dissertation before the Graduate Colloquium.

Training in Teaching. Teaching assistants will enroll in English 311, the Seminar in Teaching. All students who do not hold teaching assistantships will serve as teaching apprentices in undergraduate courses.

Dissertation and Defense. The student must submit a dissertation on a topic and in a form approved by the department, and defend it at a final oral examination. The dissertation may be a monograph, a series of closely related essays, a bibliographical project, or a textual project; in exceptional cases it may be a work of what is called creative writing.

History and Structure of English

The department also offers an alternative program in the history and structure of English, with specialization in Old, Middle, or Early Modern and Modern English.

Courses of Instruction

ENGLISH 121a. Old English *Mrs. Klein*

ENGLISH 121b. Beowulf *Mrs. Klein*

ENGLISH 142a. Elizabethan and Jacobean Drama *Mr. Smith*

ENGLISH 155b. Milton *Mr. Harris*

ENGLISH 165b. Restoration Literature

The Restoration seen as a period of conflict between traditional and modern ideas in philosophy, politics, and aesthetics. Poetry and prose from 1660 to 1700 including Hobbes, Rochester, Bunyan, Prior, Etherge and Locke with emphasis on the work of Dryden. *Miss Staves*

ENGLISH 171a. Romantic Poetry *Miss Ward*

ENGLISH 177b. The Russian Novel: Tolstoy and Dostoevsky *Mr. Rahv*

ENGLISH 178a. Studies in the Literature of Nineteenth Century Social Criticism

An inquiry into the Western writers and ideas that influenced Gandhi, the seminar deals with the intellectual backgrounds of certain contemporary problems (mechanization and human values, social involvement and withdrawal, peace and the "moral equivalent" of war) as seen in the selected writings—and in the lives—of Carlyle, Ruskin, Emerson, Thoreau, Tolstoy and Gandhi himself.

Mr. Hoblitzelle

ENGLISH 180a. Change and Continuity in Modern Literature

Readings in modern British and American literature, with some works drawn from representative European authors. *Mr. Rahv*

*ENGLISH 183a. Whitman and Dickinson

This course will consider the works of two major experimental writers studied against the background of nineteenth century poetry out of which they emerged.

* Not to be given in 1969-70.

ENGLISH 185b. Modern British and American Drama *Mr. Swiggart*

*ENGLISH 189b. Twentieth Century Criticism and Poetics

ENGLISH 191a. Introduction to Linguistics

This course begins with a survey of the philosophical, psychological, and biological foundations of human language. It focuses on the outstanding questions which an adequate theory of language must answer and considers in some detail current attempts to answer them.

Mr. Keyser

ENGLISH 191b. Introduction to Linguistic Structure

The aim of this course is to awaken the student's awareness of how much a speaker of English knows about his language that he has not been explicitly taught, to show that this knowledge requires explanation, and to develop a theory of linguistic structure which can account for it. No knowledge of formal grammar or linguistics is assumed.

Mr. Perlmutter

ENGLISH 192b. History of the English Language

This course begins with an introduction into the sound system of modern English. It then looks at the sound systems of earlier stages of the language and examines the ways in which earlier stages changed into later stages. Finally, it attempts to generalize from these instances to a theory of linguistic change.

Mr. Keyser

ENGLISH 193a. Problems in Phonology

A seminar in phonology in the light of universal grammar.

Prerequisite: Consent of the instructor.

Mr. Keyser

ENGLISH 196aR. Universal Grammar

A study of the universals of human language, which both make possible and limit linguistic differences among languages. The course attempts to develop a theory of linguistic structure which can account for the syntactic phenomena found in human languages. Data will be drawn primarily from English.

Prerequisite: English 191a or 191b.

Mr. Perlmutter

*ENGLISH 196b. Universal Grammar

Continuation of English 196a, with additional data drawn from languages other than English as the ability to handle such data is developed.

ENGLISH 197b. Problems in Syntax

A seminar in syntactic theory in the light of universal grammar.

Prerequisite: Consent of the instructor.

Mr. Perlmutter

ENGLISH 199a and b. Directed Research in Linguistics

Mr. Keyser

ENGLISH 201a. The English Seminar

The English Seminar meets the first Wednesday and third Thursday of each month for lectures and discussions on matters of common interest.

Non-credit. Required of first year students and open to all. *Mr. Hoover*

Pro-Seminars

ENGLISH 202b. Pro-Seminar: Medieval	<i>Mr. Blyth</i>
ENGLISH 203a. Pro-Seminar: Shakespeare	<i>Mr. Cunningham</i>
ENGLISH 206b. Pro-Seminar: Eighteenth Century	<i>Mr. Hoover</i>
ENGLISH 207a. Pro-Seminar: Romantic	<i>Mr. Onorato</i>
ENGLISH 208a. Pro-Seminar: Victorian	<i>Mr. Preyer</i>
ENGLISH 209b. Pro-Seminar: American	<i>Mr. Bercovitch</i>

Seminars

ENGLISH 214a. Seminar: Renaissance	<i>Mr. Smith</i>
ENGLISH 215a. Seminar: Seventeenth Century	<i>Mr. Harris</i>
ENGLISH 217a. Seminar: Romantic	<i>Miss Ward</i>
ENGLISH 218b. Seminar: Late Victorian	<i>Mr. Engleberg</i>
ENGLISH 223b. Seminar: American Poetry	<i>Mr. Cunningham</i>
ENGLISH 228b. Seminar: Conrad and Lawrence	<i>Mr. Rahv</i>
ENGLISH 295b. Studies in a Major Text	<i>Miss Ward</i>
ENGLISH 301a and b. Graduate Colloquium	<i>Staff</i>
ENGLISH 311. Seminar in Teaching	<i>Messrs. Cunningham, Lelchuk and Wight</i>

ENGLISH 321. Special Field Examinations

ENGLISH 400–410a and b. Dissertation Research

400. <i>Mr. Cunningham</i>	406. <i>Mr. Preyer</i>
401. <i>Mr. Grossman</i>	407. <i>Mr. Rahv</i>
402. <i>Mr. Harris</i>	408. <i>Mr. Smith</i>
403. <i>Mr. Hindus</i>	409. <i>Mr. Swiggart</i>
404. <i>Mr. Hoover</i>	410. <i>Miss Ward</i>
405. <i>Mr. Nemerov</i>	

ENGLISH COMPOSITION 101b. *Mr. Lelchuk*

ENGLISH COMPOSITION 102a. Directed Writing: Poetry
Mr. Cunningham

History

See Comparative History (page 99.)

History of American Civilization

Objectives

The graduate program in the History of American Civilization, leading to the degree of Doctor of Philosophy in History, has been designed to educate professional scholars and teachers of American history. The curriculum emphasizes both a comprehensive understanding of American history and the mastery of historical research and writing. For a comparative view of the American experience, students will undertake selective studies in modern European history. A related field of study will be defined, according to individual background and interest, in one of the following ways:

1. training in one of the disciplines of the social sciences or humanities—politics, or literature, for example—to provide perspectives and methods that can illuminate historical problems;
2. a thematic field in American history, involving a distinctive subject-matter and discipline: American social history, for example, or American legal and constitutional history;
3. a comparative topic in American and European history, involving a distinctive subject-matter and discipline: 20th century British and American literature, for example, or 19th century emigration/immigration.

A small, select student body will work in close cooperation with the faculty. From the beginning, individual programs of study will be developed to prepare students for their oral qualifying examinations and to guide them toward their dissertation research. Normally, the first year's work is concentrated in American history, including substantial experience in directed research. Second year students are encouraged to choose readings courses and independent study, under faculty guidance, to complete their preparation in American history. Studies in the other fields will be arranged individually, either through standard courses or directed readings. Applicants should note with care the four parts of the examination, specified under *Degree Requirements*, in which all students are expected to demonstrate proficiency.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. An undergraduate major in history is the preferred preparation for

admission, and the student's undergraduate curriculum should include some fundamental courses in American history, politics, or literature. Above all, the admissions committee must be satisfied that the applicant's interests in American history are serious and that his aspirations are professional.

Faculty

Executive Committee: Professor LEONARD W. LEVY, *Chairman*; Assistant Professor JOHN PUTNAM DEMOS, *Secretary*; Professors MORTON KELLER, MARVIN MEYERS, JOHN P. ROCHE; Associate Professors STEPHAN THERNSTROM, DAVID HACKETT FISCHER; Assistant Professor JEROLD S. AUERBACH.

Staff:

Professor MORTON KELLER: Modern America. Political institutions.

Professor MAX LERNER: Social theory. Contemporary history.

Professor LEONARD W. LEVY: Legal and constitutional history. The South. Colonial and early national period.

*Professor MARVIN MEYER: Political and social thought. Jacksonian era. The early republic.

Professor JOHN P. ROCHE: Political theory. Constitutional history. Contemporary history.

Associate Professor DAVID HACKETT FISCHER: The early republic. Political institutions. History of education.

*Associate Professor STEPHAN THERNSTROM: Social and quantitative history. Urban development. Modern America.

*Assistant Professor JEROLD A. AUERBACH: Twentieth century. Labor and legal history. Civil liberties.

Assistant Professor JOHN P. DEMOS: Colonial period. Historical demography. History of the family.

Visiting Lecturer STANLEY ELKINS (Fall Term): Early national period. Slavery and abolition.

Visiting Lecturer BRADFORD PERKINS (Spring Term): American foreign policy.

* On Leave, 1969-70.

Degree Requirements

Master of Arts

No one will be accepted in the program who is not a doctoral candidate. Applications from persons seeking a terminal M.A. degree are not welcome. However, the M.A. degree in History may be awarded (1) to those who have successfully completed the preliminary bibliographical examination and the qualifying examination and are formally admitted to candidacy for the doctorate by the Graduate School Council, or (2) to those who have passed the preliminary bibliographical examination, who have not passed the qualifying examination at the doctoral level but who, in the opinion of the committee of examiners and of the Executive Committee, have met the standard for a terminal M.A. degree. Requirements for the M.A. degree: satisfactory completion of forty-eight course credits, (including not more than twenty-four transfer credits), the qualifying examination, and demonstration of a high level of proficiency in one relevant foreign language.

Doctor of Philosophy

Program of Study. Doctoral candidates must complete two years in residence at Brandeis, and a minimum of forty-eight course credits. Programs of study and concentration will be formulated for each student, subject to the approval of the Executive Committee. Incoming students normally will be expected to take History 200a and two six-credit courses of Research in American History in their first year of residence, one each semester. The Committee may, at its discretion, grant a student transfer credit of up to one year toward the Ph.D. residence requirement for work done elsewhere. Application for such credit shall be considered only after a student has completed one semester's residence in a full-time program.

Language requirement. A high level of reading proficiency in one foreign language is required of all students. Students are expected to pass the language examination during the first year of residence. A student who has not passed his foreign language examination by the end of his first year is not eligible for financial aid from the University for the second year. The completion of language requirements at another university does not exempt the candidate from the Brandeis requirement. Special review classes will be available.

Preliminary Bibliographical Examination: All students must pass a preliminary bibliographical examination on a selected list of works in American history, to be taken no later than the first semester of their second year.

Qualifying Examination. Each doctoral candidate must be prepared for

an oral examination in the following fields: (1) general American history; (2) a period of specialization in American History; (3) an area of modern European history; (4) a related field of study, involving one of the disciplines in the social sciences or the humanities. (Note the three alternative approaches specified under Objectives.) The period of specialization will normally be selected from the following: 1607–1763, 1763–1815, 1815–1877, 1877–1914, 1914–present. Proposed European and related fields must be approved by the Executive Committee. Students entering the program without previous graduate training in American history are expected to take the Qualifying Examination no later than the end of their fifth semester of residence and must pass the examination by the end of the sixth semester. Students who have earned an M.A. in history elsewhere or who have one year of transfer credit for work taken elsewhere are expected to take and pass the Qualifying Examination by the end of their second year in the program.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree upon satisfactory completion of the following: course and residence requirements, demonstration of a high level of proficiency in one foreign language, a preliminary bibliographical examination, and a general qualifying examination.

Dissertation and Defense. The candidate will be required to prepare a prospectus for his dissertation to be submitted for approval to the Committee. When the dissertation is accepted by the committee, a final oral examination will be scheduled at which the candidate must successfully defend his dissertation before the Committee and other members of the faculty who may participate. After a candidate has successfully defended his dissertation, he will give a public lecture.

Courses of Instruction

HISTORY 150a. American Colonial History

Major trends in the social, intellectual and political life of the American colonies, up to about 1750. *Mr. Demos*

HISTORY 151b. The New Republic

An intensive study of the political, economic, demographic, social and cultural history of the United States, 1783–1840.

Prerequisite: History 51a or the equivalent.

Mr. Fischer

*HISTORY 152b. Jacksonian Democracy

An examination of the interpretations of democratic society and politics in the Jacksonian era, from Tocqueville to the present.

* Not to be given in 1969–70.

***HISTORY 154a. Modern America**

The United States in the twentieth century, with emphasis on intellectual and social trends and the changing role of intellectuals.

***HISTORY 154bR. The United States between the World Wars**
(Pro-Seminar)

A comparative analysis of selected aspects of American society during the 20's and 30's.

HISTORY 155a. Civil Liberties in America

A study of the freedoms protected by the Constitution from the First World War to the present, with special consideration to current problems. Emphasis on First Amendment freedoms and criminal justice. *Mr. Levy*



* Not to be given in 1969-70.

***HISTORY 156a. The Anti-Slavery Movement (Pro-Seminar)**

Readings and research on Abolitionism, with special reference to the problem of fugitive slaves.

HISTORY 156b. A History of Black America

A historical survey of major themes and trends in the experience of black people in the United States. *Mr. Demos*

***HISTORY 158b. Topics in the History of American Law (Pro-Seminar)**

Law as a means of social control and as an instrument of social change, with special emphasis on the relation of law and lawyers to 20th century social issues.

***HISTORY 163b. American Intellectual History, 1800–1865**

The history of ideas in America from the seventeenth century to 1865. The course traces the evolution of major traditions through the writings of significant figures and in relationship to significant historical events.

***HISTORY 164a. The American Polity to 1860**

This course treats public life in America—politics, government, law—as a social institution comparable to the church, the family or the corporation. The first semester examines this institution as part of the formation of a distinctive American life in the colonial and early national periods, culminating in the crisis of the Civil War.

HISTORY 164bR. The American Polity since 1860

The polity is examined as one of the primary social devices by which Americans have confronted industrialization, urbanization, immigration and social change. *Mr. Keller*

***HISTORY 165b. The Social History of Modern America (Pro-Seminar)**

An analysis of the transformation of American life wrought by urbanization and industrialization. Discussion of key texts, including fiction.

HISTORY 166a. History of American Constitutional Law and Theory

The history of the Constitution and its interpretation by the Supreme Court against the background of political and economic change from the foundation of the Republic to the Civil War. Origins and development of American constitutional thought and institutions, with stress on problems of judicial review and the role of the judiciary in defining the powers and limitations of government. *Mr. Levy*

HISTORY 166b. History of American Constitutional Law and Theory

The development of American constitutional law and theory since the Civil War with the emphasis on the adaptation of the Constitution to the changing needs of American society. *Mr. Levy*

HISTORY 167b. Topics in the History of American Family Life (Pro-Seminar)

An exploration of certain basic themes and problems in the historical study of the family. To be conducted as a conference course, with occasional short reports from each of the participants. *Mr. Demos*

* Not to be given in 1969–70.

***HISTORY 168b. Amercian Liberalism in the Twentieth Century**
(Pro-Seminar)

Intensive examination of selected texts chosen to illuminate American liberal thought in this century.

HISTORY 169b. Topics in Modern American Foreign Policy

Major themes in American foreign affairs since 1898. *Mr. Perkins*

HISTORY 200a. Pro-Seminar: An Introduction to the History of American Civilization

Staff

HISTORY 201–209. Research in American History

201b. *Mr. Auerbach*

206a. *Mr. Levy*

203a. *Mr. Demos*

207a. *Mr. Meyers*

204a. *Mr. Fischer*

*208b. *Mr. Thernstrom*

205b. *Mr. Keller*

209b. *Mr. Roche*

HISTORY 215a. Selected American Social Theorists: Studies in the History of American Political and Social Theory (Seminar)

The seminar will focus on Madison and Hamilton (for the *Federalist Papers*), Jefferson, Marshall, Tocqueville, Veblen, Holmes, Brandeis, and the Warren Court. The aim will be to relate the development of American political, legal and social theory to the changes in the American civilization pattern. *Mr. Lerner*

HISTORY 216a. Studies in Pre-Civil War American History

Readings and discussion of slavery abolition and other themes in pre-Civil War American history. *Mr. Elkins*

HISTORY 301–309. Readings in the History of American Civilization

301. *Mr. Auerbach*

306. *Mr. Levy*

302. *Mr. Black*

307. *Mr. Meyers*

303. *Mr. Demos*

*308. *Mr. Thernstrom*

304. *Mr. Fischer*

309. *Mr. Roche*

305. *Mr. Keller*

Readings courses may be taken by the semester or the year.

HISTORY 401–409. Dissertation Research

401. *Mr. Auerbach*

406. *Mr. Levy*

403. *Mr. Demos*

407. *Mr. Meyers*

404. *Mr. Fischer*

408. *Mr. Thernstrom*

405. *Mr. Keller*

409. *Mr. Roche*

Faculty and courses available to History of American Civilization students in modern European history, and in related disciplines, are listed by departments in the Graduate School and College catalogs. Courses and directed readings in these areas may be taken by permission of the instructor and of the Executive Committee. A select list of the faculty whose courses are relevant to this program include: Messrs. Barraclough, Binion, Black, Cantor, Shatz, Soliday and Vangar (Comparative History, History); Messrs. Rahv and Swiggart (English and American Literature); Messrs. Berliner, Evans, Lefebvre, Rosenthal, and Mrs. Solow (Economics);

* Not to be given in 1969–70.



Mr. Bernstein (Fine Arts); Mr. Lubasz (History of Ideas); Messrs. Aiken and Weisberg (Philosophy); Messrs. Fuchs, Lerner, Macridis, Waltz and Woll (Politics); Messrs. Fellman, Kecskemeti and Sobel (Sociology); Mr. Clay (Theater Arts).

History of Ideas

Objectives

The program in the History of Ideas leads to the degree of Doctor of Philosophy in the History of Ideas. It is designed to give students a broad understanding of the historical development of ideas in several fields of thought, together with thorough training in the history of one of those fields. In practical terms, it prepares students, variously, for teaching and research in intellectual history and the history of science, and for historically-oriented teaching and research in philosophy and social science.

The program treats past thought systematically as well as historically, and is essentially interdisciplinary in character. The endeavor throughout is to examine the genesis of intellectual positions within a complex socio-historical matrix, the interrelation between theoretical and practical activities, and the role of ideas in human affairs.

A student trained in the program is expected to acquire a good general grasp of the theoretical and methodological problems involved in the comparative historical study of ideas, and of the general and intellectual history of a given period (ancient, medieval, renaissance and reformation, modern, or contemporary). He is expected also to attain special competence in dealing systematically as well as historically with any one field of thought (philosophical, scientific, social) within the period of chronological concentration, and with the classic texts of that field as a whole. Finally, he is expected to acquire a competent knowledge of some branch of an external subject

related to his special interests (for example, in philosophy: epistemology, philosophy of science, or social and political philosophy; in history: a period of national history or a category of comparative history; in sociology: political sociology, sociology of literature, or social psychology).

Admission

In addition to the general requirements for admission to the Graduate School specified in an earlier section of this catalog, applicants who propose to specialize in the History of Philosophical Thought should normally present an undergraduate major in philosophy, together with evidence of adequate preparation in history or one of the social sciences; applicants who propose to specialize in the History of Scientific Thought should normally present *either* an undergraduate major in a natural science, together with evidence of adequate previous experience in history and philosophy *or* an undergraduate major in history or philosophy, together with evidence of adequate previous experience in a natural science; applicants who propose to specialize in the History of Social Thought should normally present an undergraduate major in history, philosophy, or one of the social sciences.

Applicants must be prepared to pass an examination in Latin, French or German at the beginning of their first year of residence, and to pass an examination in one of the other two languages at the beginning of their second year of residence.

Applications must include a sample of the student's written work.

Faculty

Associate Professor HEINZ M. LUBASZ, *Chairman*; Professors HENRY D. AIKEN (Philosophy), DAVID S. BERKOWITZ (History), PETER DIAMANDOPOULOS (Philosophy), WALTER V. LAQUEUR*; Visiting Professor ALASDAIR C. MACINTYRE, University of Essex, (Spring Term); Assistant Professors JACK FELMAN, GERALD N. IZENBERG.

The following departments are associated with the History of Ideas program: Classics, Economics, English and American Literature, European Languages and Comparative Literature, History, Near Eastern and Judaic Studies, Philosophy, Politics and Sociology.

Degree Requirements

Master of Arts

In principle, only applicants for the Ph.D. program are accepted. There

* On Leave, 1969-70.

is no M.A. program as such. However, the M.A. degree will be awarded upon completion of the following requirements:

1. One year of residence as a full-time student.
2. Successful completion of a prescribed course of study.
3. Demonstration of proficiency in Latin, French or German.
4. Submission, by May 1, of an acceptable, substantial, scholarly paper written during the course of the year.

Doctor of Philosophy

The requirements for the Ph.D. degree are as follows:

1. Two years of residence as a full-time student.
2. Successful completion of a prescribed course of study.
3. Demonstration of proficiency in two of the following languages: Latin, French, German; and in any additional language needed for advanced work in the student's area of specialization.
4. Submission, by May 1 of the student's first year of residence, of an acceptable, substantial, scholarly paper written during the course of the year.
5. Passing the Qualifying Examinations with distinction.
6. Admission to candidacy.
7. Submission of a doctoral dissertation approved by the department.
8. Successful defense of the dissertation.

Program of Study. Each student will plan his program of study in consultation with his adviser.

The program of study is to include the required minimum number of courses in each of the following rubrics:

I. Theory and Method

History of Ideas 200c in the first year; one additional half-course or seminar; one tutorial.

II. General and Intellectual History

Two half-courses in the period in which the student is concentrating (History of Ideas 110, 120, 130, 140 or 150).

III. Fields of Thought

1. History of Philosophical Thought
 2. History of Scientific Thought
 3. History of Social (i.e., Social, Political and Economic) Thought
- Four half-courses in the student's field of specialization, including at least one seminar.

Two half-courses, in one or both of the fields in which the student is not specializing; or one such course plus a course in a special phase of intellectual history (e.g., the French Enlightenment,

the Age of Romanticism); or two courses in special phases of intellectual history.

IV. External Subject

Two half-courses in any *one* discipline related to the student's special interests.

At the discretion of the student's adviser, one or two (but not more) of the courses required in any one year may take the form of individual reading or research.

Language Requirements. A proficient reading knowledge of two of the following languages is required: Latin, French, German. In order to be admitted to candidacy for the Ph.D. degree, a student whose further work requires the use of an additional language must first demonstrate proficiency in that language. Students are expected to pass the examination in at least one of the two required languages in their first year of residence, the other in the second year. Language examinations are given early in the fall term, re-examinations in the spring term. No student who fails to pass at least one language examination in his first year will be allowed to proceed to a second year of study until the deficiency has been remedied; no student who fails to pass the examination in the second language will be admitted to candidacy until the deficiency has been remedied.

Qualifying Examinations. The Qualifying Examinations are to be taken toward the end of the second or at the beginning of the third year of graduate study, and in no case later than the end of the third year. They consist of four three-hour written papers, and an oral examination lasting about one and one-half hours. The oral examination will cover topics from the first three papers.

The format of the written examination is as follows:

1. The General and Intellectual History of a Period.
Ancient: c. 800 B.C. to c. 400 A.D.
Medieval: c. 300 B.C. to c. 1500 A.D.
Renaissance and Reformation: c. 1250 to c. 1700
Modern: c. 1650 to c. 1890, with some attention to the period 1890 to 1960
Contemporary: c. 1789 to 1960, with particular attention to the period 1890 to 1960.
2. The History of a Field of Thought within that Period.
3. The General History of that Field, with emphasis on the classics thereof.
4. An External Subject.

The requirement in the External Subject may be met by completing with distinction two courses in that subject.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree when he has completed the requirements as to residence, study, language proficiency, paper, qualifying examinations, and when the subject of his dissertation has been approved by the department. Such approval depends, in part, upon the student's passing with distinction, an oral examination in the general area of his proposed topic.

Dissertation and Final Oral Examination. Once a student has been admitted to candidacy for the Ph.D. degree, the department chairman will appoint a dissertation adviser and a dissertation committee. The dissertation will be written under the supervision of the adviser. It will be read by the committee, and by such external readers as the committee may wish to consult. When the dissertation has been accepted, the candidate will defend it in a final oral examination.

Courses of Instruction

Group I. Theory and Method

HISTORY OF IDEAS 200c. Introduction to the History of Ideas

Exploration of various approaches to the history of ideas, and of the underlying theoretical problems.

Required of all first-year students.

Messrs. Lubasz and Izenberg

HISTORY OF IDEAS 104b. Sociology of Knowledge

See Sociology 110b.

Mr. Wolff

HISTORY OF IDEAS 105b. Philosophy of History

See Philosophy 152b.

Mr. Weisberg

HISTORY OF IDEAS 106a. Historiography

See History 190a.

Mr. Berkowitz

HISTORY OF IDEAS 106b. Sociology of Literature

See Sociology 106b.

Mr. Marx

HISTORY OF IDEAS 204a and b. Sociology and History

See Sociology 204a and b.

Mr. Wolff

*HISTORY OF IDEAS 205b. Claims to Knowledge

See Sociology 221b.

HISTORY OF IDEAS 206a. Some Pre-Theoretical Problems of Sociology

See Sociology 228a.

Mr. Wolff

* Not to be given in 1969-70.

HISTORY OF IDEAS 206b. Techniques of Historical Research

*Required of all second year students.**Mr. Berkowitz*

HISTORY OF IDEAS 209a and b. Tutorial: Explication and Interpretation of Text

209a-1 Herodotus

Mr. Stewart

209a-2 Machiavelli

Mr. Berkowitz

209a-3 Galileo

Mr. Felman

209b-1 Husserl

Mr. MacIntyre

209b-2 Heidegger

Mr. Izenberg

Group II. Intellectual History

HISTORY OF IDEAS 110a. History of Greece

See Classics 111a.

Mr. Littman

HISTORY OF IDEAS 110b. History of Rome

See Classics 112b.

Mr. Littman

*HISTORY OF IDEAS 117a. The Book of Job and the Problem of Evil

See N.E.J.S. 117a.

*HISTORY OF IDEAS 120a. The Civilization of the Early Middle Ages

See History 123a.

*HISTORY OF IDEAS 120b. The Civilization of the High and Late Middle Ages

See History 123b.

*HISTORY OF IDEAS 130aR. The Italian Renaissance

See History 125aR.

HISTORY OF IDEAS 130a. Foundations of Modernity

See History 128a.

Mr. Berkowitz

HISTORY OF IDEAS 140a. Intellectual History of Modern Europe, 1650-1789

A survey of dominant thinkers and currents of thought, with particular attention to the development of social, political and economic ideas. *To be announced*

HISTORY OF IDEAS 140b. Intellectual History of Modern Europe, 1789-1890

A survey of dominant thinkers and currents of thought, with particular attention to the development of social, political and economic ideas. *To be announced*

HISTORY OF IDEAS 143a. The French Enlightenment

See French 127a.

Prerequisite: Ability to read, and to understand spoken French. Mr. Gendzier

HISTORY OF IDEAS 144a. European Culture since the Enlightenment

See History 135a for description.

Mr. Binion

*HISTORY OF IDEAS 146a and b. The Age of Romanticism

See History 138a and b.

HISTORY OF IDEAS 147a. The Development of the Russian Intelligentsia

See History 147a.

Mr. Shatz

HISTORY OF IDEAS 148a. Modern Jewish Intellectual History to 1870

See N.E.J.S. 166a.

Mr. Halpern

HISTORY OF IDEAS 150a. Intellectual History of Contemporary Europe, 1890–1930

A survey of dominant thinkers and currents of thought, with particular emphasis on the disintegration of the rationalist tradition in philosophy, psychology, social thought, in literature and the arts.

Mr. Izenberg

HISTORY OF IDEAS 150b. Intellectual History of Contemporary Europe, 1930–1960

A survey of dominant thinkers and currents of thought, with particular emphasis on attempts to resolve the crisis in the rationalist tradition, in philosophy, psychology, social thought, in literature and the arts.

Mr. Izenberg

*HISTORY OF IDEAS 153aR. European Thought and Culture, 1890–1914

See History 137aR.

HISTORY OF IDEAS 158b. Modern Jewish Intellectual History since 1870

See N.E.J.S. 166b.

Mr. Halpern

*HISTORY OF IDEAS 230b. Research Seminar: The Reformation

See History 232b.

*HISTORY OF IDEAS 238a. Moses Mendelssohn and Beginnings of Modern Jewry

See N.E.J.S. 280a.

Group III. History of Fields of Thought

History of Philosophical Thought

HISTORY OF IDEAS 159a. Problems in 20th Century Christian Thought

Movements and persons in recent theological thought relating to such issues as contextual ethics, secularization, "death of God," the Christian Marxist dialogue, and new forms of liturgy.

Mr. Cox

HISTORY OF IDEAS 162b. Aristotle

See Philosophy 105b.

Mr. Diamandopoulos

* Not to be given in 1969–70.

***HISTORY OF IDEAS 164a. History of Skepticism: Renaissance to Enlightenment**

A survey of the development of skepticism from the Renaissance to the Enlightenment, dealing with such thinkers as Montaigne, Sanches, Gassendi, Descartes and Bayle, with the way in which major philosophers of the period reacted to the revival of skepticism.

***HISTORY OF IDEAS 164b. History of Modern Language Theory**

An examination of the development of theories of the origin, nature and function of language, from the French Cartesians to the formative period of nineteenth century linguistics. Special attention will be given to the relation of concepts of language to concepts of human nature.

HISTORY OF IDEAS 165b. British Empiricism

See Philosophy 143b.

Mr. Burian

HISTORY OF IDEAS 166a. Utilitarianism

See Philosophy 123a.

Miss Ezorsky

HISTORY OF IDEAS 167a. Kant

See Philosophy 167a.

Mr. Greenberg

HISTORY OF IDEAS 168a. Nineteenth Century Philosophy

See Philosophy 132a.

Mr. Massie

HISTORY OF IDEAS 169a. The Continental Existentialists and Their American Counterparts

See Philosophy 134a.

Mr. Aiken

HISTORY OF IDEAS 265b. Seminar in Rationalism

See Philosophy 203b.

Mr. Diamandopoulos

***HISTORY OF IDEAS 266a. Seminar on Hume**

A detailed and intensive study of Hume's skepticism, based principally on a close examination of the first book of the *Treatise* and on the *Dialogues*, with some consideration of his other writings.

History of Scientific Thought

HISTORY OF IDEAS 170a. History of Scientific Thought to the Scientific Revolution

The development of scientific thought in the setting of general intellectual and social change.

Mr. Felman

HISTORY OF IDEAS 170b. History of Scientific Thought since the Scientific Revolution

A continuation of History of Ideas 170a.

Mr. Felman

*HISTORY OF IDEAS 171a. Greek Views of Nature: from the Presocratics through Plato

*HISTORY OF IDEAS 171b. Greek Views of Nature: from Aristotle through Neoplatonism

*HISTORY OF IDEAS 174a. The Scientific Revolution

*HISTORY OF IDEAS 175a. Science and Imagination in the Seventeenth Century

See English 105a.

HISTORY OF IDEAS 178. Science and Society, 1750–1850

A comparative study of the social organization of science in England, Scotland, France and Germany in a period of drastic social transformation. The scientific intellectual as bureaucrat and rebel. *Mr. Felman*

*HISTORY OF IDEAS 270b. Seminar in the History of Scientific Thought

History of Social Thought

*HISTORY OF IDEAS 182b. Greek Political Thought: Homer to Plato

See Classics 107b.

HISTORY OF IDEAS 183b. Classical Sociological Theory

See Sociology 200b.

Mr. Kecskemeti

HISTORY OF IDEAS 184a. The History of Economic Thought I

A study of classical economics and the controversies from which it emerged, from Adam Smith to John Stuart Mill. *Mr. Sowell*

HISTORY OF IDEAS 184b. The History of Economic Thought II

A study of modern, or post classical, economics, from Karl Marx to John Maynard Keynes. *Mr. Sowell*

HISTORY OF IDEAS 185b. The Emergence of Secular Morality

An examination of the relationship of philosophical theories about morality to the moral practice of society and to the historical explanation of moral change. Among the authors to whom special attention will be paid are Kant and Kierkegaard. *Mr. MacIntyre*

HISTORY OF IDEAS 186b. Ideology and the Explanation of Belief

A study of the concept of ideology, centering on the transformation of Marxism from a critique of European society in the 1840's into the ideology of Soviet society, with an emphasis on the philosophical and methodological problems that arise in the course of explaining the vicissitudes of a belief. *Mr. MacIntyre*

*HISTORY OF IDEAS 187b. Russian Social and Political Thought

See History 147b.

HISTORY OF IDEAS 188b. Studies in the Literature of Nineteenth Century Social Criticism

See English 178b.

Mr. Hoblitzelle

*HISTORY OF IDEAS 189aR. Culture and Politics in Contemporary Europe, 1930–1960

An examination of significant trends in the cultural life of Britain, France, Italy, Germany and Eastern Europe, with emphasis on the relation of culture and politics (the culture of fascism, communism and the intellectuals, main issues in post-war literature).

*HISTORY OF IDEAS 189b. Advanced Industrial Society and Its Critics

HISTORY OF IDEAS 202a and b. Modernization

An exploration of selected problems and processes of modernization, with reference to both the “developed” and the “underdeveloped” states and the relationships between them.

Messrs. Bittner, Lubasz, Weingrod and Worsley

*HISTORY OF IDEAS 285b. Studies in the History of Socialism

HISTORY OF IDEAS 286b. Seminar: Kant, Hegel, Marx

See Politics 255b for description.

Mr. Kelly

HISTORY OF IDEAS 288a. The Origins and Development of Freudian Theory

A study of Freud’s basic theories on individual and social psychology.

Mr. Izenberg

*HISTORY OF IDEAS 289b. Social and Political Thought in Germany since 1918

Historical survey of contemporary Germany, with emphasis on the ideological aspects of German politics, and on the interplay of political doctrine and social development.

HISTORY OF IDEAS 300a and b. Readings in the History of Ideas *Staff*

HISTORY OF IDEAS 400–410. Dissertation Research

Independent research for the Ph.D. degree.

400. *Mr. Aiken*

406. *Mr. Diamandopoulos*

401. *Mr. Altmann*

407. *Mr. Felman*

402. *Mr. Berkowitz*

408. *Mr. Izenberg*

403. *Mr. Binion*

409. *Mr. Littman*

404. *Mr. Black*

410. *Mr. Lubasz*

405. *Mr. Cantor*

411. *Mr. Weisberg*

History of Ideas Colloquium

The History of Ideas Colloquium meets monthly to hear and discuss papers and reports presented by members of the faculty and visitors.

Attendance is required of all students.

* Not to be given in 1969–70.



Mathematics

Objectives

The graduate program in mathematics is designed primarily to lead to the Doctor of Philosophy degree. The formal course work is devoted to giving the student a broad foundation for work in modern pure mathematics. An essential part of the program consists of seminars on a variety of topics of current interest in which mathematicians from greater Boston often participate. In addition, the Brandeis-Harvard-M.I.T. Mathematics Colloquium gives the student an opportunity to hear the current work of eminent mathematicians from all over the world.

Admission

The general requirements for admission to graduate work in mathematics are the same as those for the Graduate School as a whole. The department has available a variety of fellowships and scholarships for well qualified students. To be considered for such financial support the student should submit application by February 1, 1970.

Faculty

Professor HUGO ROSSI, *Chairman*: Functional Analysis, Complex Geometry, Several Complex Variables.

Professor MAURICE AUSLANDER: Commutative and Homological Algebra.

Professor EDGAR H. BROWN, JR.: Algebraic Topology and Differential Topology.

Professor DAVID A. BUCHSBAUM: Algebra and Homological Algebra.

Visiting Professor CARL HERZ: Analysis.

Professor HAROLD LEVINE: Differential Topology and Singularities of Differential Maps.

Professor JEROME LEVINE: Differential Topology, Knot Theory.

Professor TERUHISA MATSUSAKA: Algebraic Geometry.

Professor RICHARD S. PALAIS: Differential Topology and Global Analysis.

*Professor ROBERT T. SEELEY: Singular Integrals, Partial Differential Equations.

Associate Professor ALAN MAYER: Algebraic Geometry.

**Associate Professor PAUL MONSKY: Algebraic Geometry.

Assistant Professor ALDRIDGE BOUSFIELD, *Graduate Student Adviser*: Topology.

Assistant Professor DAVID LIEBERMAN: Algebraic Geometry.

*Assistant Professor MICHAEL SHUB: Differentiable Dynamical Systems.

Assistant Professor MICHAEL SPIVAK: Topology.

Lecturer and Research Associate DAVID SCHAEFFER: Analysis.

Instructor and Research Associate TUMAR BURAK: Analysis.

Instructor and Research Associate RALPH REID: Topology.

* On Leave, 1969–70.

** On Leave, Fall Term, 1969–70.

Degree Requirements

Master of Arts

1. One year's residence as a full-time student.
2. Successful completion of an approved schedule of courses.
3. Satisfactory performance on the General Examination which is normally taken by all degree students at the beginning of their second year.
4. Proficiency in reading French, German, or Russian.

Doctor of Philosophy

1. Residence as a full-time student for two years.
2. Successful completion of an approved schedule of courses.
3. Superior performance in the first year courses.
4. Successful completion of the qualifying examination.
5. Doctoral dissertation approved by the department.
6. Final examination consisting of the defense of dissertation.
7. Proficiency in reading French and German, or Russian.

Program of Study. The normal first year of study consists of Mathematics 101, 111, 121. The student may elect to substitute higher level courses for one or more of these on the basis of his preparation. He should discuss this possibility with his adviser. The second year's work ordinarily will consist of three higher level courses, one of which should be a seminar (Mathematics 291, 292, 293 or one of the informal research seminars). Students admitted to candidacy for the Ph.D. will begin work in the third year toward a dissertation. This might include advanced courses and seminars as well as Mathematics 400. Ordinarily, the dissertation will be in the major subject of the qualifying examination.

Qualifying Examination. The student will be examined on topics within two of the general areas: algebra, analysis and topology. Some time during his second year he should obtain the written consent of two faculty members to serve as major and minor examiner. (Forms are available in the Mathematics Department Office.) The minor examiner may choose to require knowledge of the syllabus for his subject, but the major examiner will, in addition, demand understanding of more advanced topics. The form and the time of the examination will be determined by the participants; ordinarily it will be oral.

Admission to Candidacy. To be admitted to candidacy for the Ph.D. degree in Mathematics, the student must have done well in his first year courses, must have successfully completed his qualifying examination, must

demonstrate proficiency in reading French, German or Russian and must be recommended for candidacy by the department.

Dissertation and Defense. The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and after the successful defense of that dissertation.

Courses of Instruction

The 100, 200, and 300 courses meet three hours per week for the entire year and carry six credits.

MATHEMATICS 101a and b. Algebra I

Groups, rings, fields, Galois theory, representations and modules.

Mr. Lieberman

MATHEMATICS 111a and b. Analysis I

Fundamental existence theorems for several real variables, manifolds and Riemann surfaces.

Mr. Herz

MATHEMATICS 121a and b. Topology I

Set theory, topological spaces, function spaces and covering spaces.

Mr. J. Levine

*MATHEMATICS 201a and b. Algebra II

Function fields and commutative rings.

MATHEMATICS 202a and b. Algebraic Geometry I

Introduction to algebraic geometry.

Mr. Auslander

*MATHEMATICS 203a and b. Algebraic Number Theory I

In the first part of the course the ring of integers in a number field will be studied; possible topics for the second part include quadratic forms, class-field theory and the arithmetic theory of elliptic curves.

MATHEMATICS 204a and b. Homological Algebra I

Derived functors, spectral sequences.

Mr. Buchsbaum

MATHEMATICS 211. Analysis II

Singular integral operator on L^p spaces, for Euclidean space and for manifolds, with applications to the study of elliptic partial differential equations on manifolds with or without boundary. Further topics to be selected by the instructor.

Mr. Palais

*MATHEMATICS 212a and b. Functional Analysis

Locally convex spaces. Krein-Millman and Hahn-Banach theorems. Operators on Hilbert and Banach spaces. Banach algebras. Applications to Fourier series and other topics.

* Not to be given in 1969-70.

*MATHEMATICS 213a and b. Harmonic Integrals

The purpose of this course is to study representations of various cohomology theories by solutions of systems of partial differential equations. The course presupposes only the first year courses. It will contain an introduction to elliptic systems, calculus of variations, boundary value problems and related topics.

MATHEMATICS 221a and b. Algebraic Topology I

Sheaves, homology theory, and homotopy theory.

Mr. Reid

*MATHEMATICS 222a and b. Differential Geometry

Lie groups and symmetric spaces.

*MATHEMATICS 225a and b. Automorphic Forms

*MATHEMATICS 250a and b. Riemann Surfaces and Algebraic Curves

A combined topological, analytic and algebro-geometric approach to the subject.

MATHEMATICS 291. Algebra Seminar

Mr. Matsusaka

MATHEMATICS 292. Analysis Seminar

Mr. Rossi

MATHEMATICS 293. Topology Seminar

Mr. J. Levine

*MATHEMATICS 302a and b. Algebraic Geometry II

Algebraic curves and abelian varieties.

*MATHEMATICS 303a and b. Algebraic Number Theory II

*MATHEMATICS 311a or b. Fourier Analysis

*MATHEMATICS 312a and b. Topics in Complex Variable

*MATHEMATICS 315. Pseudo-Differential Operators

MATHEMATICS 321a and b. Algebraic Topology II

Mr. Brown

*MATHEMATICS 322a and b. Differential Topology

A study of differentiable manifolds. Imbedding theorem, cobordism, Smale's handlebody theory and surgery.

*MATHEMATICS 324a. Lie Groups

MATHEMATICS 332a. Introduction to Global Analysis

Staff

MATHEMATICS 401–415. Research

Independent research for the Ph.D. degree.

- | | |
|---------------------------|---------------------------|
| 401. <i>Mr. Auslander</i> | 409. <i>Mr. Palais</i> |
| 402. <i>Mr. Brown</i> | 410. <i>Mr. Rossi</i> |
| 403. <i>Mr. Buchsbaum</i> | 411. <i>Mr. Seeley</i> |
| 405. <i>Mr. H. Levine</i> | 412. <i>Mr. Spivak</i> |
| 406. <i>Mr. J. Levine</i> | 413. <i>Mr. Mayer</i> |
| 407. <i>Mr. Matsusaka</i> | 414. <i>Mr. Lieberman</i> |
| 408. <i>Mr. Monsky</i> | 415. <i>Mr. Bousfield</i> |

Mediterranean Studies

Objectives

The graduate program in Mediterranean Studies aims at inducting the student into the investigation of major problems involving the meeting of different peoples in and around the Mediterranean Sea, where Western civilization was first created and then developed. The instruction will train the student to master the primary sources as he learns the broad synthesis. Master of Arts as well as Doctor of Philosophy candidates are expected to show a grasp of the problem as a whole, as well as the ability to work in a variety of different sources. Doctor of Philosophy candidates will be required to demonstrate also a capacity for original research.

The scope of the department embraces Mediterranean developments from Antiquity and down to, but not including Modern Times. Students will be trained in history and archaeology as well as in the languages and literatures.

While it is desirable for the student to know as many of the key languages as possible in advance, no student is expected to come ideally equipped with complete linguistic preparation. If a course requires the use of a source that the student has not studied, he will ordinarily be permitted to enroll, provided that he is concurrently taking a basic language course to make up the deficiency.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area.

Students planning to enter this department should take as much Hebrew, Greek and Latin as possible during their undergraduate course of study.

Faculty

Professor CYRUS H. GORDON, *Chairman*: Cuneiform, Egypto-Semitic, and Mediterranean studies.

Visiting Professor HAROLD EDGERTON: Underwater archaeology.

Visiting Professor ERNEST R. LACHEMAN: Cuneiform studies.

Visiting Professor EDWARD ZARUDZKI: Archaeological geophysics.

Associate Professor LOUIS V. ZÄBKAR: Egyptian language and archaeology.

Assistant Professor GORDON D. NEWBY: The Islamic Mediterranean.

Visiting Lecturer SARAH GROLL: Egyptology.

Visiting Lecturer IAN A. TODD: Mediterranean archaeology.

Degree Requirements

Master of Arts

Program of Study. Each candidate for the Master's degree is required to complete satisfactorily not less than twenty-four semester hours of course work in the department, plus any courses outside the department that the major professor may prescribe. The candidate must also show a command of either Latin or Greek, and of Hebrew or Arabic, plus at least one other Oriental language (such as Akkadian, Ugaritic, or Egyptian).

Language Requirement. A reading knowledge of one modern foreign language (ordinarily French or German) is required.

Qualifying Examinations. The student must demonstrate, in written and oral examinations, proficiency in the sources of two major areas of the program and an ability to synthesize them. A broad grasp of the Mediterranean origins of Western Civilization will be required of all candidates, beyond the specific topics covered in courses.

Doctor of Philosophy

The requirements are the same as for the Master of Arts degree, plus twenty-four additional semester hours of course work in the department, a reading knowledge of two modern foreign languages (ordinarily French and German), and a doctoral dissertation.

Admission to Candidacy. A student shall be eligible for admission to candidacy upon completing his language requirements and satisfactorily

passing his written and oral examinations. Proficiency in those examinations must be demonstrated in three major areas of the program.

Dissertation and Defense. The dissertation should be a significant and original contribution to scholarship and should demonstrate a capacity for independent research based on primary sources. After submission of the dissertation, the candidate will be expected to defend it in a final oral examination.

Courses of Instruction

MEDITERRANEAN STUDIES 100a. The Mediterranean in Antiquity

An orientation course covering the major historical developments that contributed to Western culture from the dawn of writing (ca. 3000 B.C.) to the appearance of Islam (7th century A.D.) The lectures will be supplemented by readings in ancient and modern historians.

Mr. Newby

MEDITERRANEAN STUDIES 100b. The Mediterranean in the Middle Ages

The main developments from the Islamic Conquest to the Renaissance, stressing the interplay of European and Afro-Asiatic forces in the formation of the modern West. The lectures will be supplemented by readings in medieval and modern historians.

Mr. Newby

MEDITERRANEAN STUDIES 101b. Mediterranean Civilization and Its Influence on the Outside World

Lectures and discussions on the ancient Mediterranean as a creative cultural center with a virtually world-wide communications capability. The results of marine archaeology, outside influences on the Mediterranean and the emerging pattern of cultural diffusion that stimulated all high civilizations, are among the themes of the course.

Mr. Gordon

*MEDITERRANEAN STUDIES 102. History of Syria-Palestine

In 1968-69 the lectures and discussion will focus on the Middle Bronze Age with emphasis on the archaeological data upon which historic conclusions have been based.

MEDITERRANEAN STUDIES 103a. Egyptian History

A one-hour course based on readings in Egyptian historical texts available in English translation, with a view to acquainting the student with the civilization and history of the Nile Valley.

Mrs. Groll

*MEDITERRANEAN STUDIES 105. History of the Nabateans and Palmyrenes

The political and cultural history of the caravan city states in the light of archaeology, native inscriptions and classical sources.

* Not to be given in 1969-70.

*MEDITERRANEAN STUDIES 109a. Cultural History of Mesopotamia

The institutions, daily life and material culture of Sumer, Babylonia and Assyria.

*MEDITERRANEAN STUDIES 109b. Mesopotamia and Canaan

A study of the influence exerted by Mesopotamia on the West with special reference to Old Testament problems.

While there are no specific prerequisites, it is desirable for the student to have a knowledge of Biblical Hebrew and the content of MEDITERRANEAN STUDIES 109a.

MEDITERRANEAN STUDIES 113a. Archaeology of Egypt

The explorations and excavations. The art and monuments of Pharaonic Egypt. The instructor will emphasize the results of his own recent excavations and prepare the students for field work.

Mr. Zăbkar

MEDITERRANEAN STUDIES 115. Archaeology of Anatolia

In 1969-70, the focus will be on archaeological problems related to the Hittites, in the framework of history, with special emphasis on the Bogazkoy excavations.

Mr. Todd

*MEDITERRANEAN STUDIES 116a. Archaeology of the Prehistoric Mediterranean

A study of the area in Paleolithic and Neolithic times (down to 3000 B.C.) based on exploration, excavation, architecture, art and artifacts.

*MEDITERRANEAN STUDIES 117b. Crusader Archaeology

The inland and coastal fortifications of the Crusaders, and their other material remains, in the East Mediterranean, against the background of their military, political and institutional history.

MEDITERRANEAN STUDIES 118b. Physical Methods of Archaeological Research

The techniques of locating sites and artifacts. The course will include a few lectures on the campus but most of the instruction will take place on boats equipped for locating wrecks and tunnels in Boston harbor. The students will be trained in the use of seismic profiling equipment, navigational systems, plotting and other procedures. A number of weekends will be spent at sea.

Open to students preparing for professional archaeological field work.

Messrs. Edgerton and Zarudzki

*MEDITERRANEAN STUDIES 123. Biblical Texts Pertaining to the Monarchy

This course trains the student to control the Hebrew text linguistically and to use it for reconstructing the Mediterranean synthesis.

* Not to be given in 1969-70.

MEDITERRANEAN STUDIES 125. Classical Arabic Texts

This course is designed to induct the student into the use of Classical Arabic texts for historical studies.

Open to students beginning Arabic but also recommended for those with some previous knowledge of the language who need a methodical review. *Mr. Newby*

MEDITERRANEAN STUDIES 126. History and Sources of the Crusades

A study of the history of the Crusades as seen primarily through Near Eastern sources.

Prerequisite: A reading knowledge of Arabic.

Mr. Newby

MEDITERRANEAN STUDIES 130. Elementary Akkadian

A study of Ungnad's Grammar and readings of selected texts in cuneiform.

Mr. Lacheman

*MEDITERRANEAN STUDIES 136. Hittite

Grammar and interpretations of legal and ritual texts.

Prerequisite: The student must have taken or take concurrently Mediterranean Studies 130.

MEDITERRANEAN STUDIES 138b. Elementary Ugaritic

Grammar and poetic texts in C. H. Gordon's *Ugaritic Textbook*, 1967, will be read with constant reference to biblical and classical literature.

Prerequisite: A knowledge of biblical Hebrew.

Mr. Gordon

*MEDITERRANEAN STUDIES 139. Advanced Ugaritic

Interpretation of epistles, rituals and administrative texts in C. H. Gordon's *Ugaritic Textbook*, 1967.

Prerequisite: Mediterranean Studies 138b.

MEDITERRANEAN STUDIES 140a. Elementary Egyptian

A beginner's course based on the grammar and interpretation of simple hieroglyphic texts in Late Egyptian.

Mrs. Groll

MEDITERRANEAN STUDIES 140b. Late Egyptian Stories

The hieroglyphic texts of *The Misadventures of Wenamon* and *Horus and Seth* will be read with emphasis on grammar and basic interpretation.

Prerequisite: Mediterranean Studies 140a.

Mr. Zābkar

*MEDITERRANEAN STUDIES 151. Hesiod and the Epic Cycle

Readings in the Greek texts with reference to Helleno-Semitic relations.

Prerequisite: A reading knowledge of Greek.

MEDITERRANEAN STUDIES 152a. Greek Historians

In 1969-70, Book II of Herodotus will be read and explained against the background of Egyptian cultural history and archaeology.

Prerequisite: A knowledge of Greek.

Mr. Zābkar

* Not to be given in 1969-70.

***MEDITERRANEAN STUDIES 153. The Minoans and Mycenaean**

Seminar discussions will be based on readings of ancient Bronze Age texts including Linear A and B.

Prerequisites: A reading knowledge of Hebrew and Greek.

***MEDITERRANEAN STUDIES 160a. The Aeneid with Reference to Its Homeric, Phoenician and Punic Background**

Prerequisite: A knowledge of Latin.

MEDITERRANEAN STUDIES 217. Archaeological Seminar

Problems in East Mediterranean archaeology designed for graduate students who expect to be associated with expeditions. The subjects covered include techniques of excavation and field survey, architectural recording, marking and treatment of small objects in the field, methods of pottery sorting and drawing, etc.

Mr. Todd

***MEDITERRANEAN STUDIES 228. Islamic Institutions**

The tenets of Islam will be examined with reference to their effect on the Mediterranean during the early Middle Ages.

***MEDITERRANEAN STUDIES 231. Intermediate Akkadian**

Rapid reading in the Nuzu tablets.

Prerequisite: Mediterranean Studies 130.

***MEDITERRANEAN STUDIES 233. Akkadian Texts from the West**

In 1968–69 the Akkadian tablets from Ugarit will be analyzed with reference to the Mesopotamian impact on the Levant.

Prerequisite: Mediterranean Studies 130.

MEDITERRANEAN STUDIES 234. Akkadian Contracts, Letters and Diplomatic Texts

Cuneiform texts will be read with analysis of dialect, style and historic significance.

Prerequisite: Mediterranean Studies 130.

Mr. Lacheman

***MEDITERRANEAN STUDIES 235. Sumerian**

Grammar and reading of Gudea and Ur III texts.

Prerequisite: The student must have taken or take concurrently Mediterranean Studies 130.

MEDITERRANEAN STUDIES 242a. Hieratic Late Egyptian

A variety of literary and historic documents aimed at inducting the student into hieratic script and the peculiarities of Late Egyptian.

Prerequisite: Mediterranean Studies 140a and b.

Mrs. Groll

MEDITERRANEAN STUDIES 242b. Advanced Late Egyptian

The reading of texts selected for special literary, historical or economic problems.

Prerequisite: Mediterranean Studies 242a.

Mr. Zābkar

MEDITERRANEAN STUDIES 244a. Coptic

Saidic biblical texts will be selected from the Old and New Testaments, and studied with special attention to morphology, syntax and historic development from Late Egyptian.

Mrs. Groll

MEDITERRANEAN STUDIES 400-405a. Dissertation Research

Independent research for the Ph.D. degree.

400. *Mr. Gordon*

403. *Mr. Newby*

401. *Mr. Zabkar*

404. *Mr. Todd*

402.

405a. *Mrs. Groll*



Music

Objectives

The graduate program in Music, leading to the degrees of Master of Fine Arts and Doctor of Philosophy, is designed to provide a command of the craft of composition and an understanding of the nature, structural basis, and historical development of music.

Three general fields of study are offered in music:

1. *Musical Composition*. This program leads to the degree of Master of Fine Arts.
2. *Musical Composition and Theory*. This program leads to the degrees of Master of Fine Arts and Doctor of Philosophy.
3. *History of Music*. This program leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

Students must specialize in one of these areas but are expected to acquire a background in all three.

Admission

Only a limited number of students will be accepted. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Applicants for study in Musical Composition or Musical Theory are required to submit, in addition to a transcript of their undergraduate records, evidence of qualification in the form of examples of original work in musical composition and advanced work in musical theory. Applicants for admission in the History of Music should submit examples of their prose writing on music as evidence of their ability to handle the language and specialized vocabulary. Undergraduate theses or term papers will be satisfactory. This work should be submitted together with the formal Application for Admission.

All applicants are expected to have some proficiency at the piano or on an orchestral instrument. Information about this should be furnished when making formal application. Before registering, new students are given an advisory examination, results of which aid the department in course placement.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the department between March 1 and March 15. Readmission will be refused in cases where students have not demonstrated a capacity for acceptable graduate work.

Faculty

Associate Professor PAUL H. BRAINARD, *Chairman*; Professors ARTHUR BERGER, HAROLD SHAPERO, SEYMOUR SHIFRIN; Associate Professors MARTIN BOYKAN, HELMUT HUCKE, ROBERT L. KOFF, CALDWELL TITCOMB, LEO TREITLER; Assistant Professors LOUIS BAGGER, EDWARD COHEN, ***ALVIN LUCIER; Lecturer MADELINE FOLEY; Consultants MAYNARD GOLDMAN, EUGENE LEHNER, GEORGE ZILZER.

Degree Requirements

Master of Fine Arts

Language Requirements.

Group A: French, German, Italian.

Group B: Spanish, Latin, Hebrew, Greek (and other languages at the discretion of the Music faculty).

A reading knowledge of a language from Group A is normally required of all applicants for admission to a graduate program in music.

Candidates for the Master's degree specializing in Musical Composition must possess a reading knowledge of two of the above languages, of which at least one must be from Group A. (The combination of Italian and Spanish will not be approved).

Candidates for the Master's degree specializing in Musical Theory or in History of Music must possess a reading knowledge of two languages in Group A.

Foreign language course credits will not in themselves constitute fulfillment of the language requirements for advanced degrees. All candidates must pass language examinations set by the Music faculty and offered periodically during the academic year. Students are urged to take these examinations at the earliest feasible date. In case of failure, an examination may be taken more than once.

The language examinations are designed to test the students' ability to make ready and accurate use of critical and literary works. Normally each examination will contain three passages for written translation into idiomatic English: (1) classical or modern prose; (2) classical or modern poetry, often poetry that has been set to music; and (3) critical prose dealing with music. Dictionaries may be used in these examinations.

Instrumental Proficiency. At least moderate proficiency at the piano is required of all candidates for advanced degrees.

*** On Leave, Spring Term, 1969-70.

Residence Requirements. Six full courses or the equivalent in half-courses at the graduate level, completed with distinction, and a thesis are required of all candidates.

The department normally allows credit for no more than one full course taken at another institution.

In general, the program is completed in two academic years. Students should take no more than four full courses in any one year. It is suggested, however, that students pursue no more than three full courses during the year in which they take general examinations and submit a thesis.

Examinations. Early in March of their first year of study, graduate students will be expected to pass an examination in the standard literature of music from the early eighteenth century to the present. Upon admission, each candidate will receive a list of works to guide his listening.

When their program of study is completed, candidates for the degree of Master of Fine Arts must pass with distinction written general examinations in theory and history, one of which will be their major field, the other their minor field.

Thesis. Candidates for the degree of Master of Fine Arts in Music are required to submit a thesis. For candidates in Musical Composition this will consist of a musical composition, its scope to be approved by the Music faculty. For candidates in the History of Music or in Musical Theory and Composition it will be an analytical or historical study on a topic acceptable to the Music faculty. Part of this requirement in Musical Theory and Composition may be met by an original musical composition. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than December 1 for a February degree or April 1 for a June degree.

Doctor of Philosophy

Residence Requirements. A minimum of eight full courses or the equivalent in half-courses at the graduate level, completed with distinction, are required of all candidates.

In general, the program will be completed in three academic years.

Applicants who have done graduate work elsewhere may apply for transfer of credit for such work; a maximum of one year of residence may be granted.

Instrumental Proficiency. At least moderate proficiency at the piano is required of all candidates.

Language Requirements. Candidates for the Doctor's degree in Music must possess a reading knowledge of all three languages in Group A. In exceptional cases, the Music faculty may accept a language in Group B in lieu of Italian. Subject to the approval of the department, candidates in theory or composition may substitute for the third language courses in Mathematics, Physics, Philosophy or other disciplines.

Examinations. Candidates will be expected to pass with unusual distinction the written general examination for the M.F.A. After meeting their language and residence requirements they must pass the special oral qualifying examination.

Admission to Candidacy. Students will be admitted to candidacy for the Ph.D. degree upon successful completion of the written and oral qualifying examinations, fulfillment of the language requirements, and the approval of a dissertation topic.

Dissertation. Candidates for the degree of Doctor of Philosophy in the History of Music or in Musical Theory and Composition must submit an acceptable written dissertation on a subject approved by the Music faculty. In certain cases, and with the prior approval of the department, qualified candidates for the degree in Theory and Composition may meet a part of the dissertation requirement with an original composition. Two copies of the doctoral dissertation, as well as an abstract of the dissertation not to exceed six hundred words in length, should be submitted to the department or committee chairman no later than December 1 for a February degree and April 1 for a June degree of the academic year in which the Ph.D. degree is to be conferred.

Written dissertations should demonstrate the competence of the candidate as an independent investigator, his critical ability, and his effectiveness of expression. Upon completion of the dissertation the candidate will be expected to defend it in an oral examination.

Courses of Instruction

Except in the rarest circumstances, graduate credit is not allowed for courses numbered below Music 165.

MUSIC 165a. Elementary Orchestration

The instruments of the orchestra; their construction, ranges and playing techniques, with a consideration of their use by major composers; the methods of writing effectively for present-day instruments, individually and in combination; the mechanics of reading and writing a score.

Written exercises, analysis of scores, study of recorded performances and live demonstrations.

Mr. Lucier and Mr. Koff

MUSIC 168a and b. Renaissance and Baroque Keyboard Music

A survey of the literature for harpsichord and clavichord, including detailed study of the historical evolution of those instruments. *Mr. Bagger*

MUSIC 171a. History and Practice of Music Criticism

An examination of music criticism from the Baroque to the present day, with special attention to important nineteenth and twentieth century critics. Practical experience through the regular writing of reviews.

Prerequisite: A knowledge of music history and theory. *Mr. Titcomb*

MUSIC 180b. Ethnomusicology of the American Negro and Others

An introduction to the music of nonliterate peoples; folk music; and the music of non-Western high cultures, with particular emphasis on India and Japan.

Prerequisite: Music 162 (or the equivalent) or a course in anthropology. *Mr. Titcomb*

MUSIC 194b. Problems in Cultural Historiography

Readings and discussions concerning the conceptual foundations of historical study in the arts: the relation between history and criticism; the history and function of style-period concepts; evolutionary and developmental theories; modes of explanation in cultural history.

Prerequisite: Permission of instructor. *Mr. Treitler*

MUSIC 197a. Tutorial in Music History and Literature

Guided reading and research in the history and literature of music.

Mr. Schiffrin

MUSIC 197b. Tutorial in Musical Analysis

Introduction to basic analytical methods.

Mr. Cohen

MUSIC COLLOQUIUM

Discussions of special topics led by the faculty and occasional guests. Some of the sessions will include performances of new works. Required of all graduate students. *Non-credit.*

Staff and Visiting Lecturers

***MUSIC 200. Proseminar in Musicology**

A survey of the principal subject matters, problems, and techniques comprising the discipline of Musicology.

***MUSIC 201. Collegium Musicum**

Studies in music history through coordinated research and performance. Source and notational problems of selected historical examples will be treated in detail. Course members will be able to participate, together with members of the staff, in studio performances. Whenever possible, the course material will be integrated with that of one or more concurrent advanced courses in music history.

MUSIC 203. Nature and Function of Musical Analysis

Consideration of the problems raised by the choice of different models as a basis for musical analysis. Intensive and detailed analysis of scores primarily as

* Not to be given in 1969-70.

a means of dealing with these problems in terms of such concepts as traditional functional tonality, Schenker's approach to structural unity, serial organization, indeterminacy, etc. Questions of aesthetics, methodology and terminology raised by the current revaluation of theory.

Mr. Berger

***MUSIC 221. Seminar in the Music of the Middle Ages**

Studies in the history of music from early Christian times through the end of the fourteenth century.

Music 221 and 222 will be offered in alternate years and both will incorporate systematic studies in the musical notations of their respective times.

MUSIC 222. Seminar in the Music of the Renaissance

Studies in the history of music during the fifteenth and sixteenth centuries.

Mr. Treitler

***MUSIC 223. Seminar in Baroque Music**

Studies in historical developments in music of the seventeenth and eighteenth centuries. Typical full-year projects will include: the cantatas of J. S. Bach; seventeenth century keyboard music; history of cantata and oratorio in the seventeenth century; sonata, suite, concerto; Baroque opera.

MUSIC 224. Seminar in Pre-Classical and Classical Music

Study of historical problems in the music of the middle and late eighteenth century. Sample topics include: transitional sonata forms through early Haydn and Mozart; Beethoven's sketch books; stylistic interactions among the Viennese Classicists; opera from Pergolesi to Mozart.

Mr. Hucke

***MUSIC 225. Seminar in Romantic Music**

Selected topics in music from Beethoven, Weber, and Schubert to Strauss, Mahler, and Sibelius. Some consideration will be given to Impressionism and to the relations between music and the other arts.

MUSIC 227. Proseminar in Theory and Composition

Technical projects in theory and composition; tonal forms and contrapuntal techniques.

Required of all first-year graduate students in theory and composition except under special circumstances. May be repeated for credit with permission of the instructor.

Mr. Shapero

***MUSIC 228. Seminar in Twentieth Century Techniques**

Exercises in composition employing musical materials and organizational methods developed since about 1900, accompanied by analysis of works of composers from Debussy to the present.

MUSIC 233b. Topics in Analysis

Mr. Shifrin

MUSIC 246a. Stravinsky

Mr. Berger

***MUSIC 260. Composition in Traditional Forms**

The melodic phrase; types of accompaniment; studies in harmonic rhythm; trio forms, rondo forms, sonata forms, variation forms. Analysis and exercises.

* Not to be given in 1969-70.

***MUSIC 263. Canon and Fugue**

Principles governing the construction of invertible counterpoint, various kinds of canon, strict and free fugues. Analysis of classic and modern fugues and detailed study of Johann Sebastian Bach's *Art of the Fugue*. Written exercises.

***MUSIC 270. Seminar in Serial Music**

Detailed analysis of scores by Schoenberg, Webern, Boulez, Babbitt; methods of serial organization; relationship between serial procedures and general compositional problems such as phrase articulation and "harmonic movement."

MUSIC 292. Seminar in Composition

Group meetings and individual conferences. Opportunities for the performance of student works will be provided. *Messrs. Berger, Shapero and Shifrin*

MUSIC 295a and b. Electronic Music

Composition, notation and recording of electronic music. Combined media. Studies for tape and instruments. *Mr. Shapero*

MUSIC 299a and b. Individual Research and Advanced Work

Individual research and advanced work in musical literature, musical history and in special problems of musical analysis, esthetics, theory and criticism. *Staff*

MUSIC 400-406. Dissertation Research

Required of all doctoral candidates.

400. *Mr. Berger*

401. *Mr. Boykan*

402. *Mr. Brainard*

403. *Mr. Shapero*

404. *Mr. Shifrin*

405. *Mr. Titcomb*

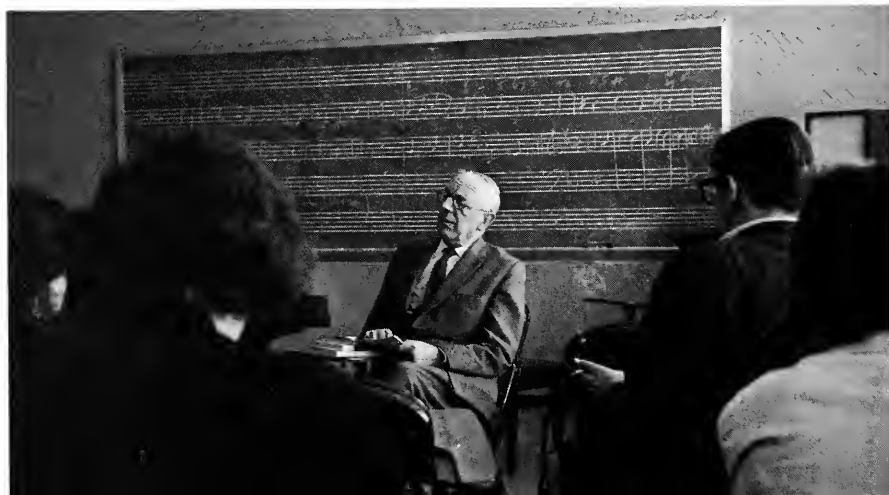
406. *Mr. Treitler*

Electronic Music Studios

Two studios with facilities for the composition of electronic music are available to qualified student composers.

Studio 1—Director: Mr. Lucier

Studio 2—Director: Mr. Shapero



Near Eastern and Judaic Studies

Objectives

The graduate program in Near Eastern and Judaic Studies, leading to the Master of Arts and Doctor of Philosophy degrees, is designed to train scholars and teachers in the various cultures of the Near East and of the classical and modern Judaic civilization, and to do further research in these areas. This work is done mainly through study of the relevant languages and literatures and interpretation of historical sources.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this department.

Faculty

Professor NAHUM M. SARNA, *Chairman*; Biblical studies. Dead Sea Scrolls.

Professor ALEXANDER ALTMANN: History of Jewish philosophy and mysticism. Medieval philosophy. Classical Bible commentaries.

Professor NAFTALI C. BRANDWEIN: Modern Hebrew literature.

Professor NAHUM NORBERT GLATZER: Jewish history. Literature of the Second Commonwealth. Hebrew historiography. Eschatology.

Professor BENJAMIN HALPERN: Modern Near East history. Political and social history of Palestine and Israel. Modern Jewish history.

Professor MARSHALL SKLARE: Sociology of the Jewish community.

Associate Professor DWIGHT W. YOUNG: Ancient Near Eastern Civilization.

Assistant Professor LEON JICK: Contemporary Jewish history.

Instructor MICHAEL FISHBANE: Hebrew and Biblical studies.

Instructor EMANUEL GOLDSMITH: Hebrew and Yiddish literatures.

Program of Study

Among the main fields in the area of Near Eastern and Judaic Studies in which courses are being given in the Graduate School are:

Semitic Languages and Literatures (Akkadian, Arabic, Aramaic, Egyptian, Hebrew, Syriac).

History of Ancient Near East.

Islamic Studies.

Biblical Studies.

Jewish History.

Medieval Jewish Philosophy and Mysticism.

The Modern Near East.

Contemporary Jewish Studies.

Fields of study not listed here may be approved.

Degree Requirements

Master of Arts

Residence Requirements. The student is required to complete four full courses in the department. Programs of study are kept flexible; the department will consider the needs and interests of each student and advise him in outlining a program of study—this program may be modified later by the department. Students may be required to take courses given by other departments. A student who can, on admission, give evidence of satisfactory competence in one Semitic language or in one particular field of Near Eastern and Judaic Studies, will be able to complete the program for his degree in one year. Additional resident study may be required of less advanced students.

Language Requirements. Every candidate for the Master of Arts degree must show proficiency in one Semitic language, and in French or German. In special cases, another modern foreign language may be substituted for one of the two listed here. The foreign language requirements are to be satisfied by examination not later than eight weeks before a candidate is to receive his degree.

Examination. An oral examination is given at the conclusion of the student's residence. The examination is organized around two major subjects chosen from the fields of study undertaken by the student and is designed to test the student's knowledge in those subjects as well as his ability to relate his information to the large area to which those subjects belong. A student

who fails to pass the examination, or any part of it, may apply for re-examination, which will take place not earlier than one semester after the date of the first examination.

Thesis. In certain cases, the student is advised to write a thesis which must be submitted no later than May 1 of the year in which the degree is to be conferred. In such cases, the student registers in the Dissertation Colloquium (NEJS 400) which then counts as one of the required four courses.

Doctor of Philosophy

Residence Requirement. The residence normally required of a Ph.D. student who is the holder of an M.A. degree is one year (four courses); a longer residence will be required for part-time students and students holding teaching assistantships. The main emphasis, however, is placed on the students' individual research.

Language Requirements. A candidate for the Doctor of Philosophy degree in this area must show proficiency in two Semitic languages and in two modern foreign languages, as required by his special field of research. The candidate must satisfy his language requirements no later than at the completion of his required residence in the Graduate School.

Examinations. A written or an oral comprehensive examination in three areas of study (the scope being determined at a conference with the examining board) is given at the conclusion of the student's residence. A student who fails to pass the examination, or any part of it, may apply for a re-examination, which will take place not earlier than one semester after the date of the first examination.

Admission to Candidacy. A student registered for studies leading to the Ph.D. degree becomes a candidate for that degree when he has fulfilled his residence requirements, when the subject and synopsis of his dissertation have been accepted by the department, when he has passed the comprehensive examinations, and fulfilled the language requirements.

Dissertation and Defense. The student will discuss his plans for a dissertation with the chairman of the department and the dissertation supervisor. The conferences on the planning and the program of the dissertation take place in the Dissertation Colloquium (NEJS 400), a course in which the candidate is to register. Normally, the candidate will continue working on his dissertation after the completion of his residence, i.e., as a nonresident student. The dissertation must demonstrate the candidate's thorough knowl-

edge of the field and his competence in independent research, and must constitute an original contribution to knowledge. Two copies of the dissertation, one of which must be the original typescript, are to be deposited in the office of the department chairman not later than April 1 of the year in which the candidate plans to take the degree. A defense of the dissertation will be held.

Courses of Instruction

NEJS 100b. The Civilization of the Ancient Near East

The Israelite Cultic Sites. A study of the religious, political, geographical and architectural aspects of Israelite cultic sites as Arad and Shiloh. *Mr. Young*

NEJS 101. Basic Arabic

An introduction to literary Arabic. Drills in grammar, pronunciation and composition. Reading of graded classical and modern texts.

Open to students who have not previously had instruction in Arabic.

Mr. Mazor

NEJS 102. Intermediate Arabic

Study of advanced grammatical and syntactical forms. Reading of related classical and modern texts. Drills in pronunciation and composition. *Mr. Mazor*

NEJS 104b. Aramaic Dialectology: Biblical Aramaic

A study of the Aramaic portions of the Bible, and the contemporary Aramaic documents from Egypt with emphasis on grammar, and comparative and historical considerations. *Mr. Young*

*NEJS 106. Elementary Ugaritic

Grammar and poetic texts.

NEJS 107. Elementary Akkadian

See Mediterranean Studies 130.

Mr. Lacheman

NEJS 108a. Comparative Grammar of Semitic Languages

Mr. Young

NEJS 109a. The Patriarchal Period in the Light of Near Eastern Documents

Mr. Young

*NEJS 114a. Studies in the Biblical Cult

A comparative study of cultic material in the historical and prophetic books with special emphasis on features of the royally sponsored cults and prophetic attitudes toward ritual.

*NEJS 117a. The Book of Job and the Problem of Evil

A reading of the Book of Job (in English translation) and a discussion of the role of the book in the literature and thought of the Western world; the problem of evil in Judaism and Christianity.

* Not to be given in 1969-70.



***NEJS 121b. The Dead Sea Scrolls: The Manual of Discipline**

To be read in the original, with special attention to the historical background, religious teachings and social organizations of the sect.

Linguistic features will be emphasized.

Mr. Sarna

NEJS 122a. Readings in Talmudic Literature

Selected Texts from the Order *Nashim*.

Mr. Gershfield

NEJS 123a. Classical Bible Commentaries I

Selected texts from the French and Spanish schools of Jewish Commentators on the Pentateuch.

Mr. Altmann

NEJS 123b. Classical Biblical Commentaries II

Selected texts from the French and Spanish school of Jewish Commentators on the Prophets and Hagiographa.

Mr. Altmann

***NEJS 125b. Selected Texts from Genesis Rabba**

A study of the earliest documents of Midrashic speculation on cosmological and kindred problems. Tracing of Hellenistic, especially Gnostic sources. The origins of Jewish mysticism.

* Not to be given in 1969-70.

NEJS 135a. The Categories of the Spiritual Life in Jewish Neoplatonism
Mr. Altmann

NEJS 135b. Faith and Reason in Jewish Aristotelianism *Mr. Altmann*

*NEJS 138a and b. Modern Hebrew Literature

An analytical study of the development of ideas, motifs, and structure of modern Hebrew prose and poetry. The courses will be based on the works of I. D. Berkovitz, J. Steinberg and others in prose, and D. Shimoni, N. Alterman and others in poetry.

NEJS 139a. Major Trends in Modern Hebrew Literature

A critical study (in English) of two major streams, the traditional and rebellious, in modern Israeli poetry and prose by means of an analysis of themes, ideas, milieu and structure with emphasis on parallel motifs in European literature.

Mr. Brandwein

NEJS 140b. History of the Jews in Antiquity and the Middle Ages

The organization and function of the Jewish community; intellectual developments and changes in religious doctrine; Messianic movements; the Jewish community in European economic life.

Mr. Glatzer

*NEJS 144a. Political Modernization in the Near East

The development of political institutions in the successor states of the Ottoman Empire. Critique of models of political modernization in the current literature of the region.

NEJS 146b. Politics and Political Institutions in the Near East

Egypt and the Fertile Crescent, since World War II.

Mr. Halpern

NEJS 147a. The Ottoman Empire and the West

The political, economic and social structure of the Ottoman Empire and its relations with World powers, 1770–1920.

Mr. Halpern

*NEJS 149a. History of Palestine and Contemporary Israel

An examination of the interrelationships between social and political institutions in modern Israel. Change and development in ideological and institutional patterns.

*NEJS 149b. Contemporary Social Change in Israel

Problems of modernization and development; methods of research. Seminar.

NEJS 163b. Jewish Communal Structure and Organization

The role of the subcommunity in American society; Jewish communal services in medieval and modern times; contemporary American Jewish communal forms; religion, community relations, overseas aid, social welfare, and relationships with Israel.

Mr. Sklare

NEJS 166a. Modern Jewish Intellectual History to 1870

Jewish ideologies and movements from the Enlightenment to the rise of political anti-Semitism.

Mr. Halpern

* Not to be given in 1969–70.

NEJS 166b. Modern Jewish Intellectual History since 1870

Jewish ideologies and movements from the rise of political anti-Semitism to the present.

Mr. Halpern

NEJS 168a. The Culture of East European Jewry

A survey of social and ideological trends and an introduction to the literature and folklore of East European Jewry.

Mr. Goldsmith

NEJS 168b. The Literature of the Holocaust

The ordeal of European Jewry during the second World War as reflected in memoirs, diaries, fiction, poetry, and historical and psychological writing.

Mr. Goldsmith

NEJS 172a. Seminar in Yiddish Literature: The Works of H. Leivick

Leivick's dramas, poetry, essays and addresses against the background of modern Jewish history and the trends in 20th century Yiddish literature of Europe and America.

Mr. Goldsmith

NEJS 172b. Seminar Yiddish Literature: Mendeleyev Mokher Seforim, Sholom Aleichem and Y. L. Peretz

Representative works of each author will be studied together with selected criticism.

Mr. Goldsmith

NEJS 204a. Topics and Problems in Jewish Education

See CJS 204a for description.

Mr. Lukinsky

NEJS 204b. Conceptual Models for Jewish Education

See CJS 204b for description.

Mr. Lukinsky

NEJS 221. The Book of Psalms

Selected readings. A detailed examination of Hebrew and Near Eastern psalmody, with special attention to the ancient versions, medieval rabbinic commentaries and recent advances in Psalms research. The underlying religious concepts will be explored.

Mr. Sarna

*NEJS 224b. History of the Biblical Text

A study of the growth of the biblical text and the ancient versions of the Bible.

*NEJS 225b. North-West Semitic Inscriptions

A seminar in Phoenician, early Aramaic, Hebrew and related epigraphy from the Biblical period, including new archaeological finds.

NEJS 235. Readings in Jewish Education

See CJS 235 for description.

Mr. Lukinsky

*NEJS 236a. Selected Texts from Jewish Mystical Literature

NEJS 237b. Hebrew Literature: Medieval Hebrew Poetry

A study in works from Samuel Hanagid to Solomon ben Gabirol.

Mr. Brandwein

* Not to be given in 1969-70.

NEJS 238b. A History of Ideas in Modern Hebrew Literature

A seminar covering a history of ideas as reflected in the writings from the Enlightenment to the establishment of the state of Israel. *Mr. Brandwein*

NEJS 256a. The Second Jewish Commonwealth

Source studies in the history and culture of Palestine from 538 B.C. to 70 A.D. *Mr. Glatzer*

*NEJS 280a. Moses Mendelssohn and Beginnings of Modern Jewry

A seminar studying the transition of Jews from the Ghetto into the European world. Analysis of important literary documents of the period.

NEJS 320–330. Reading Courses

Special tutorials for advanced graduate students.

320. Readings in Jewish History

Mr. Glatzer

322. Readings in Medieval Jewish Philosophy

Mr. Altmann

324. Readings in Modern Hebrew Literature

Mr. Brandwein

325. Readings in Biblical Texts

Mr. Sarna

*326. Readings in Islamic Civilization

327. Readings in Syriac Literature

Mr. Young

329. Readings in Modern Near East and Modern Jewish History

Mr. Halpern

330. Readings in Yiddish Literature

Mr. Goldsmith

NEJS 400–406. Dissertation Colloquium

Independent research for the Ph.D. degree.

400. *Mr. Altmann*

403. *Mr. Young*

401. *Mr. Glatzer*

404. *Mr. Brandwein*

402. *Mr. Halpern*

405. *Mr. Sarna*

406. *Mr. Sklare*

* Not to be given in 1969–70.



Philosophy

Objectives

The graduate program in philosophy is designed to prepare students for careers in philosophy as scholars and teachers. It places traditional emphasis on logic, epistemology, metaphysics, value theory and the history of philosophy. The number of students admitted to the program is small and the most important part of a student's work is done in small seminars and tutorials under close faculty supervision.

Admission

In addition to the general requirements for admission to the Graduate School as specified in an earlier section of this catalog, applicants for admission to the graduate program in philosophy should have had at least one year of history of philosophy and at least one course in logic.

Faculty

Professor HAROLD WEISBERG, *Chairman*: Philosophy of the social sciences. Social philosophy. Philosophy of religion.

Professor HENRY D. AIKEN: Ethics. American philosophy. Social philosophy.

Professor PETER DIAMANDOPOULOS: History of ancient philosophy. History of science.

***Professor JOHN VAN HEIJENOORT: Logic. History of logic. Foundations of mathematics.

Visiting Professor SIR KARL POPPER (Fall Term): Philosophy of science.

*Professor FREDERIC T. SOMMERS: Philosophy of Language. Metaphysics. History of philosophy.

Professor MORRIS WEITZ: Philosophy of art and literature. Analytical philosophy.

Visiting Associate Professor GERTRUDE EZORSKY (Fall Term): Analytical philosophy.

Visiting Associate Professor IVOR HUNT (Spring Term): Theory of knowledge.

* On Leave, 1969-70.

*** On Leave, Spring Term, 1969-70.

Assistant Professor RICHARD BURIAN: Philosophy of science.

*Assistant Professor JAMES W. CHILD: Philosophy of science.

Assistant Professor ROBERT S. GREENBERG, (*Student Adviser*): Theory of knowledge.

Lecturer DAVID MASSIE: Esthetics and logic.

Degree Requirements

All programs will be worked out in consultation with the student's adviser.

Master of Arts

Generally only candidates for the Ph.D. degree are accepted, although in some cases an M.A. degree will be awarded upon satisfactory completion of the following requirements:

1. One year's residence as a full-time student.
2. Successful completion of a prescribed schedule of courses.
3. Passing the qualifying examination.
4. Demonstration of proficiency in either French or German.

Doctor of Philosophy

The degree requirements for the Ph.D. degree are as follows:

1. Residence as a full-time student for two years.
2. Successful completion of a prescribed schedule of courses.
3. Passing the qualifying examination with distinction.
4. Demonstration of proficiency in either French or German.
5. Admission to candidacy.
6. Submission of a doctoral dissertation approved by the department.
7. Successful defense of the dissertation.

Program of Study. Each student will be assigned a tutor who will advise him on his course of study and guide him in his preparation for the qualifying examinations. First year students are required to take the pro-seminar in philosophy (Philosophy 200) and six additional semester courses, four of which must be within the Philosophy Department. Second year students are required to take two semester courses from the 200 series and six additional semester courses. The student is also encouraged to take some work in a field other than philosophy that is related to his area of concentration. Such work

* On Leave, 1969-70.

may be taken in the first or second year and will count toward the fulfillment of the residence and course requirements for the Ph.D. It must have the prior approval of the student's adviser and the department chairman. A second year student may not take more than two semester reading courses in the 300 series; these must also be approved by his adviser and the department chairman.

Qualifying Examination. The qualifying examination is given each September, and the student is required to take it at the end of his first full year of residence. A single comprehensive test will be set, divided historically into three periods: (1) up to A.D. 1500, (2) 1500–1870, (3) since 1870. Candidates are, however, expected to use the examination as an occasion for dealing with the questions raised in an analytical manner, and for developing ideas of their own, rather than for repeating factual information about the history of philosophy. Credit will accordingly be given for analytical power and for original ideas, as much as for a grasp of the historical points at issue.

For each historical period, set books will be named early in the academic year preceding the examination. While candidates are required to show general familiarity with the development of philosophy in each of the three periods, they are required to make a particularly close study of two of the books named for each period. Three or four texts will be named for each period, covering a range of topics in (e.g.) metaphysics, epistemology, logic, ethics and social philosophy, from which the candidate will choose two texts for special study. Specialized texts in (e.g.) mathematical logic or philosophy of religion will occasionally be named, without prejudice to candidates concentrating in other areas of philosophy. All examinations must be passed with distinction within thirty months of initial enrollment in order to qualify for the Ph.D. degree. No examination may be taken more than twice.

Language Requirement. A proficient reading knowledge of either French or German is required. A student must take an examination in either language by the spring term of his first year in residence and must meet the language requirement no later than the beginning of his fifth term in residence. Language examinations will be given early in the fall and spring terms. The department reserves the right to establish additional language requirements when necessary for a student's doctoral research.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree when he has completed his residence requirement, has passed with distinction all of the qualifying examinations, has fulfilled the language requirements and when the subject of his dissertation has been approved by the department.

Dissertation Topic Oral Examination. To meet the final requirement for admission to candidacy, a student must have departmental approval of a thesis prospectus and must pass with distinction an oral examination in the general area of his proposed topic.

Dissertation and Defense. When a student has been admitted to candidacy, the department chairman will appoint a dissertation adviser and a dissertation committee. The dissertation will be written under the supervision of this committee and when it has been read and accepted by the committee a final oral examination will be scheduled wherein the candidate will defend his dissertation.

Courses of Instruction

PHILOSOPHY 105b. Aristotle

Lectures on Aristotle's views on Knowledge, Being, the Cosmos, the Soul, and human life. Extensive reading from *Organon*, *Metaphysics*, *Physics*, *De Anima*, *Ethics* and *Politics* will be required. Mr. Diamandopoulos

*PHILOSOPHY 108b. Greek Political Thought, The Tradition from the Age of Homer to Plato

PHILOSOPHY 115a. Intermediate Logic

See Philosophy 15a.

Mr. van Heijenoort

PHILOSOPHY 117aR. Ethical Theory in the Twentieth Century

Readings in the works of twentieth century authors. Attention will be given to questions concerning the meaning of ethical terms, the nature and function of moral judgments, moral reasoning and principles, and concepts of volition and action as they pertain to problems of ethics. Mr. Aiken

PHILOSOPHY 119aR. Theory of Knowledge

Such questions as the nature of truth, the reliability of sense perception, and the problem of a priori knowledge will be discussed. Miss Ezorsky

PHILOSOPHY 121a. Foundations of Mathematics

Formal systems. Godel's theorems and consequences. Consistency proofs. Introduction to the theory of recursive functions. Hilbert's program and institutionalism. Mr. van Heijenoort

PHILOSOPHY 123a. Utilitarianism

A critical study of utilitarian theories including act and rule utilitarianism and the implications of these theories for social and personal morality.

Miss Ezorsky

* Not to be given in 1969-70.

PHILOSOPHY 130aR. Philosophy of Logic

An examination of the fundamental notions of logic. Signs and symbols. Sentences, statements, and propositions. Negation, implication, deductibility, logical consequence. Theory of descriptions. The relation of formalized logic to ordinary language. *Mr. Hunt*

PHILOSOPHY 132a. 19th Century Philosophy

A critical review and discussion of selected texts including Hegel, Schopenhauer, Marx, Nietzsche, J. S. Mill, and Bradley. *Mr. Massie*

PHILOSOPHY 133b. Contemporary Analytic Philosophy

A critical survey of leading men and movements in recent British and American philosophy. *Mr. Weitz*

PHILOSOPHY 134a. The Continental Existentialists and Their American Counterparts

A consideration of selective topics from the works of Nietzsche, Kierkegaard, Sartre, James and Dewey. *Mr. Aiken*

PHILOSOPHY 135a. Philosophy of Literature

Philosophical problems as reflected in classics of literature, such as the Greek dramatists, Shakespeare, Voltaire, Tolstoy, T. S. Eliot and Proust. *Mr. Weitz*

PHILOSOPHY 140b. Philosophy of Science

A critical discussion of major issues in the philosophy of science, including explanation, confirmation, scientific laws, and theories and special problems of the social sciences. *Mr. Weisberg*

PHILOSOPHY 143b. British Empiricism

Intensive study of selected works of Locke, Berkeley and Hume. *Mr. Burian*

PHILOSOPHY 145b. Human Action

Selected topics of intention, purpose, will, reason, and courses in action versus movement in human experience. *Mr. Weitz*

***PHILOSOPHY 147a. American Philosophy**

An historical survey and analysis of leading men and movements in American philosophy both of formal philosophers and social critics including the transcendentalists, the pragmatists and individualistic thinkers such as Thorstein Veblen, M. R. Cohen and George Santayana.

PHILOSOPHY 150a. Wittgenstein

Intensive study of *Philosophical Investigations*, with preliminary examination of earlier works. *Mr. Weitz*

***PHILOSOPHY 151bR. Social and Political Philosophy**

A study of several dominant themes in social and political philosophy: the concepts of natural law, civil disobedience and liberty.

* Not to be given in 1969-70.

PHILOSOPHY 152b. Philosophy of History

A study of leading problems in the theory of history; relativism, determinism, explanation, and objective historical knowledge. Analysis of several leading philosophers of history: Marx, Collingwood, and Popper. *Mr. Weisberg*

PHILOSOPHY 156a. Philosophy of Mind

Knowledge, language, and the body-mind problem. *Mr. Popper*

PHILOSOPHY 157aR. Philosophy of Language

Nature and uses of language, theories of meaning, and predication. *Mr. Massie*

*PHILOSOPHY 158a. Metaphysics

An examination of the idea of a structure of experience. Discussion will include the topics of substance and frameworks of knowledge.

*PHILOSOPHY 160b. Linguistic Philosophy

Examination of critical linguistic methods in analytic philosophy.

PHILOSOPHY 167a. Kant

A contemporary analytic approach to certain problems in the *Critique of Pure Reason*. *Mr. Greenberg*

PHILOSOPHY 200. Pro-Seminar

Required of all first year students. *Staff*

PHILOSOPHY 203b. Seminar in Rationalism

Mr. Diamandopoulos

PHILOSOPHY 300-306. Readings in Philosophy

300a and b. <i>Mr. Aiken</i>	305a. <i>Mr. van Heijenoort</i>
301a and b. <i>Mr. Burian</i>	306a. <i>Miss Ezorsky</i>
302a and b. <i>Mr. Diamandopoulos</i>	306b. <i>Mr. Hunt</i>
303a and b. <i>Mr. Greenberg</i>	
304a and b. <i>Mr. Weisberg</i>	

PHILOSOPHY 400-407. Dissertation Research

Independent research for the Ph.D. degree.

400. <i>Mr. Sommers</i>	404. <i>Mr. Burian</i>
401. <i>Mr. Aiken</i>	405. <i>Mr. van Heijenoort</i>
402. <i>Mr. Weisberg</i>	406. <i>Mr. Child</i>
403. <i>Mr. Diamandopoulos</i>	407. <i>Mr. Greenberg</i>

Philosophy Colloquium

The Philosophy Colloquium meets monthly and attendance is required. Distinguished visitors read papers and discuss their current work at these colloquia.

Physics

Objectives

The graduate program in physics is designed to equip the student with a broad understanding of all major fields of physics and to train him to carry out independent original research. This objective is to be attained by formal course work and supervised research projects. As the number of students who are accepted is limited, a close contact between students and faculty is maintained, permitting close supervision and guidance of each student.

Advanced degrees will be granted upon evidence by the student of his knowledge, understanding and proficiency in classical and modern physics, and in mathematics. The satisfactory completion of advanced courses will constitute partial fulfillment of these requirements. Research upon which theses may be based, with residence at Brandeis, can be carried out in the following areas:

Theoretical Physics: Quantum theory of fields; meson theory; quantum electrodynamics; elementary particle physics; general theory of relativity; nuclear physics; quantum statistical mechanics; thermodynamics of irreversible processes; quantum theory of the solid state; the many-body problem; kinetic theory of ionized gases; plasma physics; theoretical astrophysics.

Astrophysics: Stellar constitution; stellar and galactic evolution; radiative transfer; cosmology and cosmogony; stellar mechanics; continuum mechanics.

Experimental Physics: Nuclear physics; high energy experimental physics, primarily work with bubble chambers on the properties of the strange particles; atomic and molecular beams; optical pumping; solid state physics; nuclear magnetic resonance; phase transition phenomena; low temperature physics.

Admission

As a rule, only candidates for the Ph.D. degree will be accepted. The general requirements for admission to the Graduate School apply to candidates for admission to the graduate area in physics. Admission to advanced courses in physics will be granted following a conference with the student at entrance.

Faculty

Professor STANLEY DESER, *Chairman:* Quantum theory of fields. Elementary particles. General relativity.

Professor STEPHAN BERKO: Experimental nuclear and solid state physics. Positron interactions in solids.

Professor JACK S. GOLDSTEIN, *Director, Astrophysics Institute*: Astrophysics. Radiative transfer. Stellar interiors.

***Professor EUGENE P. GROSS: Quantum theory of multiparticle systems. Quantum theory of solids. Kinetic theory. Plasma physics.

Professor EDGAR LIPWORTH: Atomic and molecular beams. Optical pumping. Lasers.

*Professor HOWARD J. SCHNITZER: Nuclear theory. Elementary particle theory.

**Professor SILVAN S. SCHWEBER: Quantum theory of fields. Elementary particle physics. Quantum theory of multiparticle systems.

*Associate Professor MAX CHRÉTIEN: Experimental high energy physics. Elementary particles.

Associate Professor MARCUS T. GRISARU: Field theory. Mathematical physics. Elementary particles.

Associate Professor PETER HELLER: Solid state experimental physics.

Associate Professor HUGH N. PENDLETON III: Elementary particles. S-matrix theory. Quantum theory of atoms, molecules and solids.

Assistant Professor DANIEL AMIT: Theoretical many body and low temperature physics.

Assistant Professor H. DANIEL COHEN: Experimental physics at low temperatures. Liquid helium.

Assistant Professor JACQUES COHEN: Computer science. Programming languages. Non-numerical algorithms.

Assistant Professor IRA H. GILBERT: Statistical mechanics of stellar systems.

Assistant Professor CHRISTOPH HOHENEMSER: Experimental atomic and nuclear physics.

Assistant Professor LAWRENCE KIRSCH: High energy experimental physics.

Assistant Professor ROBERT V. LANGE: Theoretical many body and solid state physics.

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

*** On Leave, Spring Term, 1969-70.

Assistant Professor ALLEN P. MILLS: Experimental atomic physics. Positronium.

Assistant Professor ROBERT PERRIN: Quantum electrodynamics. Particle physics.

Assistant Professor ALAN T. RAMSEY: Experimental atomic physics.

Assistant Professor PETER SCHMIDT: High energy experimental physics.

Assistant Professor ROBERT STEIN: Stellar evolution. Fluid dynamics. Solar corona. Magnetohydrodynamics.

Instructor VISHNU SRIVASTAVA: Phase transitions. Magnetic interactions in solids.

Degree Requirements

Program of Study. The requirements for advanced degrees in the Department of Physics are as follows:

Master of Arts

1. One year's residence as a full-time student.
2. Eighteen semester hours of advanced courses in physics.
A thesis on an approved topic may be accepted in place of a semester course.
3. Reading knowledge of French, German, or Russian.
4. Satisfactory performance in the General Examination.

Doctor of Philosophy

1. Two years' residence as a full-time student.
2. Twenty-seven semester hours of advanced courses in physics.
3. Reading knowledge of two foreign languages chosen from French, German and Russian. (Italian may be substituted for French.) A knowledge of computer programming may be substituted for a *second* language.
4. Outstanding performance in the General Examination.
5. Passing of an Advanced Examination in topics related to the student's thesis subject. This examination will normally be taken after preparatory studies in the prospective field of research.
6. Doctoral thesis and final oral examination.

Program of Study and Course Requirements. Normally, first year graduate students will elect lecture courses from the 100 series; second year students from the 200 series. To obtain credit toward residence for a gradu-

ate course taken at Brandeis, a student must achieve a final grade of "A" or "B" in that course. A student who obtains a grade lower than "B" or an "Incomplete" in two or more courses in any term will not be allowed to continue his studies beyond the end of that academic year. (A course from which a student withdraws after midterm will be considered as "Incomplete.")

A student may obtain credit for advanced courses taken at another institution provided their level corresponds to the level of the graduate courses at Brandeis and that he obtained an honor grade in these courses.

Residence Requirements. A student may obtain up to one year's residence credit toward the Ph.D. requirements for graduate studies taken at another institution. No transfer residence credit will be allowed toward fulfillment of the Master's requirements.

Language Examinations. The language examination consists of a written translation of a scientific text into English. It is arranged informally between the student and the foreign language examiner. The computer programming examination consists of three parts:

In Part 1 a student is given a problem which will require a reasonably complete knowledge of Fortran and some non-trivial logic. The student will be expected to know how to punch the cards, assemble the program ("debug" if necessary), check correctness of calculation, etc., and present printed results to the examining committee.

In Part 2 the above procedure is repeated on a different problem; however, SPS programming must be used.

Part 3 consists of an oral examination in which the student should demonstrate a general knowledge of computers (their usefulness, logical and memory capacity speeds, etc.).

For further information concerning the computing examination, consult the Director of the Computer Center.

General Examination. The General Examination consists of an oral examination administered by a faculty committee and should be taken by all degree students by the end of their third term. One language examination must be taken before the General Examination.

The General Examination is designed to test whether a student has understood and integrated the material of his undergraduate and first year graduate studies. It consists of a series of an examination in depth, in two subjects agreed upon in advance. Its contents are not related to particular lectures at Brandeis. To prepare for the General Examination the student is advised to consult the graduate adviser as early as possible. Satisfactory grades, or the equivalent, in Physics 100a, 101a and b, 102a and b, and 110a and b are prerequisites to the examination.



The General Examination should be taken before the *fourth term* of study at Brandeis. Qualified students are encouraged to take it earlier. Students with a Master's degree from another university *must* take it within a year after entering Brandeis.

Outstanding performance on the General Examination qualifies a student for a Master's degree and allows him to present himself for the Advanced Examinations. Satisfactory but not outstanding performance qualifies a student for the Master's degree. The student may present himself, within a year, for re-examination on those parts of the General Examination in which his performance was not outstanding. In the case of unsatisfactory performance a student may either be asked to withdraw from the University or he may be allowed, within a year, to take the General Examination again.

Advanced Examination. The Advanced Examination is designed to test the student's knowledge and abilities in his chosen field of research. After passing the General Examination, the student begins work with an adviser who guides his research program. The adviser should be a member of the Brandeis faculty but in special circumstances may be a physicist associated with another research institution. The adviser will work out a program of study to familiarize the student with current research in his field and to explore possible dissertation topics. The Graduate Committee of the Physics Faculty will then appoint a dissertation committee, to which the student must submit a written progress report at the end of each term. The student's dissertation adviser will be the chairman of the dissertation committee. The Advanced Examination will cover the student's field of research, as well as closely related topics, and will be taken on a date set by the adviser within three terms of passing the General Examination. It will be administered by the dissertation committee, which will determine its content and form (written or oral). Depending upon the recommendation of his adviser and his per-

formance in the Advanced Examination, the committee will recommend the student for admission to candidacy for the doctorate, allow him a second attempt, or request him to withdraw from the University.

Dissertation and Final Oral Examination. The doctoral dissertation must represent a piece of original research of a standard acceptable to a faculty committee (dissertation committee) appointed for each Ph.D. candidate. The final oral examination, or defense, is an examination in which the student will be asked questions pertaining to his dissertation research.

Courses of Instruction

*PHYSICS 100a. Theoretical Mechanics

Mechanics of point systems. Lagrangian and Hamiltonian methods. Small vibrations. Transformation theory. Integral invariants. Kinematics and dynamics of rigid bodies. Perturbation theory. Relativistic mechanics.

*PHYSICS 100b. Continuum Mechanics

The mechanics of continuous media. Hydrodynamics; non-linear phenomena; shock waves.

PHYSICS 101a and b. Electromagnetic Theory

Electrostatics, magnetostatics, boundary value problems. Maxwell's Equations. Quasi-stationary phenomena. Radiation. *Mr. Perrin*

PHYSICS 102a. Quantum Mechanics

A critical review of the experiments leading to the quantum hypothesis measurements and their quantum mechanical descriptions. Observables and states. Quantum logic. Quantum kinematics and dynamics. *Mr. Lange*

PHYSICS 102b. Quantum Mechanics

Application of quantum mechanics. Description of the properties of atoms, molecules and simple solids. Perturbation theory and elementary scattering theory. *Mr. Lange*

PHYSICS 103a. Statistical Physics

Review of thermodynamics; statistical postulates; microcanonical ensemble; Maxwell-Boltzman distribution. Thermodynamic laws; canonical distribution; grand canonical ensemble; specific heats and magnetic susceptibilities in non-interacting systems. Bose systems; Brownian motion; Einstein theory; Perrin experiments; Nyquist-Johnson noise; fluctuation-compliance theorem; correlation functions. Transport theory. Mean field theories of cooperative phenomena. *Mr. Heller*

PHYSICS 103b. Low Energy Experimental Physics

Crucial experiments and experimental methods from the last fifty years. Sources will range from standard texts to original papers in atomic nuclear and solid state physics. To avoid superficiality, each student will be asked to look into a particular experiment or group of experiments in detail, with a view to understanding these in depth. *Mr. Ramsey*

* Not to be given in 1969-70.

***PHYSICS 104b. Solid State Physics**

Thermal, electric and magnetic properties of solids. Lattice vibrations. Specific heat. Band theory of solids. Fermi surface.

PHYSICS 109a and b. Advanced Laboratory *Experimental Physics Staff****PHYSICS 110a. Mathematical Physics**

Complex variables. Differential equations. Boundary value problems. Special functions. Integral equations. Numerical methods.

***PHYSICS 110b. Mathematical Physics**

Linear vector spaces: matrices, operators, Hilbert spaces. Orthogonal functions. Probability theory.

PHYSICS 113a and b. First Year Tutorial

Messrs. Gilbert, Hohenemser, Lipworth and Stein

***PHYSICS 200a. Special Theory of Relativity**

Foundations of the special theory. Lorentz transformations. Four-dimensional formulation of physics. Relativistic mechanics. Classical theory of fields.

PHYSICS 200b. General Theory of Relativity

Physical and mathematical background: the equivalence principle, tensor analysis, affine spaces, Riemannian manifolds. The Einstein field equations and their physically important special solutions. Experimental verification. The gravitational field as a dynamical system; application of field theoretical methods.

Mr. Deser

PHYSICS. 201a and b. Advanced Many Body Physics

Non-relativistic field theory applied to solids and other many body systems. Applications to transport phenomena and phase transitions. Phenomenological models and their relationship to microscopic theory.

Mr. Amit

PHYSICS 202a and b. Advanced Quantum Mechanics

Formal theory of scattering. Elementary quantization of radiation field. Quantum theory of multiparticle systems. Green's function. *Messrs. Grisaru and Perrin*

***PHYSICS 203a and b. Elementary Particle Physics**

An introduction to the phenomenology of elementary particle physics. Theoretical approaches to the dynamics of strongly-interacting elementary particles. Dispersion relations, symmetries, and current algebras.

***PHYSICS 205b. Atomic Physics**

Microwave spectroscopy, NMR, masers, lasers. Optical pumping.

***PHYSICS 207a and b. Plasma Physics**

Electrodynamics and statistical mechanics of classical plasmas: the dielectric tensor, dispersion relations, fluctuation-dissipation theorem, dynamics of a test particle in a plasma, and plasma kinetic equations.

* Not to be given in 1969-70.

PHYSICS 208a and b. Astrophysics

Hertzsprung-Russell diagram. Classification of stellar systems. Physics of stellar interiors. Radiative transfer problems. Abundances of the elements. Stellar models. Physics of the interstellar medium. Origin of cosmic rays. *Mr. Stein*

PHYSICS 209. Laboratory Seminar

Analysis of some important recent experiments.

Experimental Staff

PHYSICS 211a. High Energy Physics

Introduction to the properties of elementary particles. Relativistic kinematics. Experimental determination of the quantum numbers of particles. Interactions, symmetries and conservation laws. Weak interactions, selection rules.

Mr. Kirsch

PHYSICS 212b. Selected Topics in Experimental Solid State Physics

The choice of topics will depend on the research interests of the students and instructor. Included will be diffraction studies of lattice vibrations, cyclotron resonance studies of metals, and neutron scattering studies of magnetism.

Mr. Heller

PHYSICS 213a. Tutorial in Physics

Staff

*PHYSICS 301a and b. Topics in Particle Physics

The interaction of charges and radiation. Properties of elementary particles. Dispersion relations and symmetries.

PHYSICS 311a and b. Advanced Topics in Mathematical Physics

Systematic development of mathematical techniques relevant for current research in theoretical physics and astrophysics. Topics will include: perturbation methods, asymptotic methods, operator techniques, aspects of group theory; singular integral equations, Wiener-Hopf techniques, function derivatives, path integrals, aspects of Green's function techniques and other topics depending on the research interests of the audience.

Mr. Bakshi

Research Courses

PHYSICS 401. Experimental Atomic and Molecular Physics *Mr. Lipworth*

PHYSICS 402. Theoretical Atomic and Molecular Physics *Mr. Pendleton*

PHYSICS 403. Experimental Nuclear Physics

Messrs. Berko and Hohenemser

PHYSICS 404. Theoretical Nuclear Physics

Mr. Schnitzer

PHYSICS 405. Experimental Elementary Particle Physics

Messrs. Chrétien and Kirsch

* Not to be given in 1969-70.

- PHYSICS 406. Theoretical Elementary Particle Physics
Messrs. Deser, Grisaru, Pendleton, Schnitzer and Schweber
- PHYSICS 407. Experimental Solid State Physics
Messrs. Berko, Heller and Hohenemser
- PHYSICS 408. Theoretical Solid State Physics *Messrs. Gross and Lange*
- PHYSICS 409. Relativity *Mr. Deser*
- PHYSICS 410. Mathematical Physics *Messrs. Grisaru and Schweber*
- PHYSICS 411. Statistical Physics *Messrs. Gross and Pendleton*
- PHYSICS 412. Astrophysics *Messrs. Gilbert, Goldstein and Stein*
- PHYSICS 413. Experimental Low Temperature Physics *Mr. Cohen*

Politics

Objectives

The graduate program in politics, leading to the degree of Doctor of Philosophy, emphasizes comprehensive professional training by stressing both the fundamentals of the discipline grounded in the study of political thought and institutions and the requirements of method and analytical skills.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Normally, the student's undergraduate training must be in a field of social sciences to be considered for admission to this program. Applicants are expected to take the Graduate Record Examination.

Faculty

Professor ROY C. MACRIDIS, *Chairman*; Professors LAWRENCE H. FUCHS, WALTER LAQUEUR,* MAX LERNER, RUTH SCHACHTER MORGENTHAU, JOHN P. ROCHE, I. MILTON SACKS, KENNETH N. WALTZ; Associate Professors DONALD HINDLEY, (*Student Adviser*), GEORGE A. KELLY, PETER WOLL; Assistant Professors ROBERT J. ART, EUGENE BARDACH, MARTIN A. LEVIN, ERIC A. NORDLINGER, O. RALPH RAYMOND II, LESLIE L. ROOS, JR.;*** Adjunct Professors PAULI MURRAY; Adjunct Assistant Professor WILLIAM M. GOLDSMITH; ERNEST STOCK.

* On Leave, 1969-70.

*** On Leave, Spring Term, 1969-70.

Degree Requirements

Master of Arts

No one will be accepted in the program who is not a doctoral candidate. However, the M.A. degree will be awarded after the successful completion of the qualifying examination by the candidate and a demonstration of proficiency in one language.

In special cases and with prior approval of the director of the graduate program, the M.A. may be awarded after the completion of the first year's residence. In order to do so, the first year student must show satisfactory work in all his courses and must either submit a thesis paper that is read and found adequate by two members of the Department, or take an oral examination, the contents of which will be decided on an *ad hoc* basis.

Doctor of Philosophy

Students should note certain special features of the program, in particular, (a) instruction in small seminars under close faculty supervision, (b) the encouragement of field work or supervised research in connection with dissertation research, (c) university teaching experience. Each student is assigned to a departmental adviser who will help him to plan his program of study.

Program of Study. The student must complete two years in residence and a minimum of thirty-six course credits. Each graduate student will be required to take three of the following four fields: American Government, Comparative Government, International Relations, and Political Theory.

Within each of the three fields chosen, graduate students will be required to take a minimum of two formal courses. The standard working load for full-time students is normally expected to be at least three courses during their first year and at least two formal courses during their second year. As a rule, reading courses may be taken only after the completion of the student's first year. At the end of the first semester, entering students will submit a statement to the graduate adviser indicating their three fields of interest and the one in which they expect to do their dissertation. At the end of the first year, an informal examination will be given to test the general progress of the student and suggest his future work plan. The examination will relate primarily to the courses taken by the student. Normally, at the end of the second year a formal oral and written examination will be given covering the three fields mentioned above but with specific reference to one or more of the sub-fields in which the student has done most of his work. Those passing the examination will qualify for their doctoral dissertation and will receive the M. A. degree.

All 100 level courses are open to graduate students. The instructors will arrange for special sessions with the graduate students and will provide them with special reading materials. They will also require different standards of work and performance than the ones generally applicable to undergraduates in the courses.

Language requirements. By the end of his first year of study, the student must demonstrate proficiency in one approved foreign language. Proficiency in a second language, or in a designated skill (statistics, computer programming), must be demonstrated before the fourth semester in residence.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree when he has completed his residence requirement, has passed the qualifying examination, has fulfilled the language requirement and when the subject of his dissertation has been approved by the department.

Dissertation and Defense. The dissertation will be completed under the supervision of the student's adviser and must have the approval of a departmental committee of at least two members. Twenty-four credits beyond the required thirty-six will be allowed for dissertation research. It is assumed that the writing of the dissertation will take at least one year. Finally, the student must successfully defend his dissertation at a final oral examination.

Subject Areas and Sub-Fields. For the purpose of illustration, a detailed list of sub-fields is given below.

A. Political Theory

1. Plato to the Puritan Revolution. The concepts and history of political thought covering the Greek, Hellenistic, Roman, Byzantine, Medieval, Renaissance, and Reformation periods.

2. Machiavelli to the Present. This overlaps with the previous category in the years 1500–1650. The overlap makes for more concrete areas of study. In this category, the student is not responsible in any detail for category 4.

3. Problems and Issues in Political Thought. To be arranged with the appropriate adviser. The notion here is to allow the student some relief from the historical approach.

4. Systems and Methods of Modern Political Analysis. This is not merely "political sociology," but a category which includes the theory of social science methodology, applications of the philosophy of science, analytic philosophy, theory of games of strategy, empirical theory, etc.

B. Comparative Politics

1. Comparative Political Development. Emphasis on political, economic,

and social processes of modernization in terms of comparative political systems.

2. Comparative Political Sociology. Parties, interest groups, totalitarianism, democracy, sociopolitical upheavals, authority structures, etc.

3. Nationalism, Imperialism and Revolution. The student is responsible not merely for recent events but for the theory and history of all pertinent material.

4. Comparative Political Systems by Region. Soviet Union and European Communist states; Western Europe (emphasis on France, England, Germany); Middle East and North Africa (i.e. Morocco to Iran, Israel); Sub-Sahara Africa; China, Japan, and Korea; South and Southeast Asia; Latin America; Canada, Australia, New Zealand, South Africa, and pre-World War II Commonwealth relations.

The knowledge of these should include historical development, political systems, mutual influences, comparative structures bearing on politics, etc.

C. American Government

1. Public Administration and Public Policy. Theory, historical development, institutions, functions and current practice of the American bureaucracy and related elements.

2. The Federal Government. The Presidency, Congress, the Federal Judiciary and their development and inter-relatedness as political structures.

3. Parties, Interest Groups, and Voting Behavior. The historical development and political sociology of the above, including a grasp of contemporary theoretical work.

4. Constitutional Law.

5. State and Local Politics. Including urban studies, regional political sociology, local parties, and relations of sub-governments with Washington.

D. International Relations.

1. International Law and Organization. The theory and development of the same on both worldwide and regional scales.

2. Comparative Foreign Policy.

3. Diplomacy and War. Special concentration on diplomatic history, the theory of negotiations, and the pursuit of political ends by military means.

4. American Foreign Policy and National Security Policy. Historical and theoretical: emphasis on the latter is contemporary.

Courses of Instruction

AMERICAN GOVERNMENT

POLITICS 101a. Parties, Pressure Groups and Public Opinion

This course will examine the means by which mass publics get involved in politics. Some of the topics covered are: nominating politics, voting, campaigns, the psychology of participation, the weapons lobby, normative theories of democratic representation.

Mr. Bardach

POLITICS 103b. American Political Process

An examination of the nature, implications and determinants of political behavior in America. Special attention is given to the interaction of institutional and psychological determinants of Congressional and Presidential behavior; political "dogmatism and authoritarianism"; extremist ideological movements.

Mr. Bardach

POLITICS 107a. The Politics of Public Policy

This course will examine the nature of public policy outputs of political subsystems in American government. The demands, supports, and structures of various subsystems will be analyzed to determine those factors that are most important in shaping public policy.

Mr. Woll

POLITICS 109b. Social Science and Public Policy

This course will explore the connection between political decision-makers and social science "experts." It will address questions like: Just how expert are the "experts"? What do decision-makers need to "know"? How can they reduce the risks of following bad advice?

Mr. Bardach

POLITICS 111a. The Structure of Power and the Political Process

A political analysis of certain sociological "power structure" theories of American society, on the local community and national policy-making level, evaluating these theories and their research methods and data in comparison with political studies of structures and decision-making on the same governmental levels.

Mr. Goldsmith

POLITICS 113a. The American Presidency

An analysis of the nature and role of the American Presidency. The contemporary institution of the presidency will be examined, and its effectiveness discussed in terms of the requirements of the modern democratic state. The course will include discussions of the sources of presidential power, the constitutional basis of the presidency, the role of the Executive Office, the relationship between the Presidency and Congress, the Judiciary, and the bureaucracy.

Mr. Woll

POLITICS 115a. History of American Constitutional Law and Theory

See History 166a.

Mr. Levy

POLITICS 115b. History of American Constitutional Law and Theory

See History 166b.

Mr. Levy

POLITICS 117b. American Political Thought

An exploration of the origins of American political thought and American political institutions in the colonial and the early national period. *Mr. Roche*

POLITICS 120a. Politics of Urban Areas

An analysis of the management of conflict in urban areas. Special emphasis on the relationship between patterns of conflict management of urban governments and the public services provided by these governments, such as criminal justice, education, welfare and poverty programs. *Mr. Levin*

POLITICS 121a. Urban Policy Problems

An examination of the interrelated problems of class, race, poverty and social change in urban areas. Special emphasis on the public policies directed toward these problems. *Mr. Levin*

POLITICS 123b. The Politics of Urban Criminal Justice

Analysis of the behavior of police, prosecutors and trial court judges in urban areas. Special emphasis on the relationships of these officials and the political systems of the urban areas. *Mr. Levin*

POLITICS 213b. Policy Formation

A seminar. A study of aspects of policy making with reference to various organs of decision making in the Federal Government. *Mr. Woll*

POLITICS 214a. Urban and Community Problems

This seminar examines government, politics and policy development in urban America. *Mr. Binstock*

POLITICS 215a. Selected American Social Theorists: Studies in the History of American Political and Social Theory

See History 215a.

Mr. Lerner

POLITICS 218b. American Ethnic Politics

An examination of the political acculturation of ethnic and religious groups including American Negroes. The course will be run as a workshop and students will be expected to conduct research on a particular group. The comparative approach will be used to help facilitate understanding of the nature of American political culture as well as the distinctive characteristics of each group. *Mr. Fuchs*

POLITICS 219b. Selected Problems in American Politics

Mr. Levin

***POLITICS 221a. The American Voter**

Patterns and trends in voting behavior in the United States.

See also Politics 168a and b, American Foreign Policy, listed under International Politics.

* Not to be given in 1969-70.

COMPARATIVE POLITICS

*POLITICS 126b. Political Change in the Near East

Comparative study of political change in Turkey, Egypt, Iran, and Israel. Emphasis will be on how institutional change in these countries can aid in the construction of theories of development. The political relations among these States will also be considered.

POLITICS 130a. The Political and Social Institutions of the Soviet Union

Beginning with a brief historical study of the Bolshevik revolution, this course will analyze the ideological and institutional sources of the Soviet state and party structures. Particular attention will be devoted to institutional development and its political, economic, and social causes and consequences. The final section will examine continuity and change in the post-Stalin period.

Mr. Raymond

POLITICS 132b. The Soviet Union and World Affairs

This course will examine Soviet foreign policy in the light of ideological and state considerations. The decay of world communism as a single power center, the phenomenon of "polycentrism," and the changing pattern of communist state relations with the West and with the underdeveloped world will be discussed.

Mr. Raymond

POLITICS 140a. The Politics of Africa

Lectures and readings are supplemented by films. Topics covered include: changing approaches to the study of Africa; colonialism to nationalism, independence and pan-Africanism; ideology, including political ideas of Nkrumah, Padmore, Fanon, Memmi, Nyerere, Senghor and Toure; experiments in socialism, planning and economic development by the new nations. In depth study of several individual African countries.

Mrs. Morgenthau

POLITICS 140b. Seminar in Contemporary African Politics

Prerequisite: Politics 140a.

Mrs. Morgenthau

POLITICS 144a. Politics of Northern Latin America

This course focuses on the elements of stability and instability in the region. Specific examination is made of the Mexican and Cuban revolutions, the aborted Guatemalan revolution of 1944-54, and the "maverick" constitutional democracy of Costa Rica.

Mr. Hindley

POLITICS 144b. The Politics of Southern Latin America

The emphasis of this course is on the political development of Brazil and Argentina and on the origins, course and subsequent failure of the Bolivian revolution of 1952.

Mr. Hindley

POLITICS 148a. Government and Politics: China and Japan

An examination of the development of political thought and governmental institutions in modern China and Japan. The principal forces producing the Kuomintang and Communist revolutions in China; the Chinese Nationalist and Chinese Communist states; constitutional development and political parties in Japan from the Meiji restoration to the present.

Mr. Sacks

* Not to be given in 1969-70.

POLITICS 150a. Government and Politics: Southeast Asia

An introduction to major aspects of the political development of Southeast Asia in the modern period: the impact of Western colonialism, the nationalist struggles, the post-independence attempts to establish viable political systems, communism, and intervention from outside the region. Specific attention is given to Vietnam, Thailand, Malaysia, and Indonesia.

Mr. Hindley

*POLITICS 152b. Government and Politics: South Asia

An introductory study of the peoples, political thought, and governmental institutions of South Asia (India, Pakistan, and Ceylon).

POLITICS 156b. European Political Systems

Discussion of various theories and explanations for the operation of democratic political systems in Europe, combined with an intensive study of politics and society in England, France, and Germany.

Mr. Nordlinger

*POLITICS 158b. Political and Social Thought in Contemporary Germany (1918-1968)

This seminar will discuss in depth political developments in Germany since the end of World War I and the establishment of the Weimar Republic, the fall of the Republic, and the politics of the Nazi regime will be examined in detail, together with the subsequent developments.

*POLITICS 160a. Political Parties

POLITICS 162a. Theories of World History

The course will focus on efforts of historians and historical theorists to explain the course of world history, with emphasis on Vico, the French 18th century historical theorists, Hegel, Marx, Nietzsche, Burckhardt, Spengler, Croce, H. G. Wells, Toynbee, Voegelin, McNeill, and Darlington.

Mr. Lerner

POLITICS 164a. Comparative Foreign Policy

The course will deal with a discussion of the underlying factors shaping foreign policy and a detailed discussion of the foreign policy of some of the major powers including the United States and the Soviet Union.

Mr. Macridis

POLITICS 166a. Theories of Modernization

The processes of modernization and political development will be considered from the point of view of various theorists. Special emphasis will be placed on mobilization, institutionalization, and the influence of economics upon politics.

Mr. Roos

POLITICS 203a. Comparative Politics

The study of comparative politics: a critical appraisal of the major approaches that have been used by comparative political scientists, such as political, cultural, elite studies and structural functional analysis, and an evaluation of the hypotheses found within these broad approaches.

Mr. Nordlinger

POLITICS 232a. Politics in Developing States

Studies in the theory and practice of national and international politics in selected developing states.

Mrs. Morgenthau

POLITICS 233b. French Political Institutions

This course will discuss in depth selected topics in contemporary French politics.

Mr. Macridis

POLITICS 236b. Questions of Nationalism and Communism in Southeast Asia

This seminar will examine problems related to the politics of Southeast Asia.

Mr. Hindley

POLITICS 238aR. Selected Problems in African Politics

Advanced individual research into the contemporary political problems of selected African countries. Emphasis will be on the use of primary material.

Mrs. Morgenthau

POLITICS 239b. Selected Topic on Asian Politics

A research seminar including consideration of the following: nationalism and communism in Southeast Asia; regionalism in Southeast Asia, political development in Asia; and the role of the military and political parties.

Mr. Sacks

POLITICS 240a. Political Sociology

An examination of class structure, economic development, alienation, social values, voluntary associations and socialization patterns, as these help to account for different types of political attitudes, behavior and the operation of political systems.

Mr. Nordlinger

INTERNATIONAL POLITICS**POLITICS 168a. American Foreign Policy**

An historical analysis of these American foreign policy strategies: isolationism, imperialism, collective security, and balance of power. The effects of foreign pressures and domestic politics on these strategies will be considered. Illustrative material will be drawn from the eighteenth, nineteenth and twentieth centuries.

Mr. Art

POLITICS 168b. American Foreign Policy

A post-World War II analysis of American foreign policy. The course will focus on these three areas: why particular foreign policy decisions have been made, how they have been implemented, and what effects they have had. Substantive issues, such as arms control and disarmament, nuclear deterrence, alliance management, and foreign aid will be examined to illustrate the dilemmas confronting a superpower.

Mr. Art

POLITICS 170a. International Organization

A survey of international organizations as they relate to the main themes of contemporary international relations: the maintenance of peace and security; arms control and disarmament; decolonization; human rights and racial problems; international trade and economic development; and monetary instability.

Mr. Finkelstein

POLITICS 172b. Contemporary International Politics

A discussion of such factors and problems as the origins of the Cold War, Soviet and American foreign policy, nuclear strategy, and internal war as they influence the pattern of international politics. *Mr. Nordlinger*

POLITICS 174a. Problems of National Security

An examination of alternate political, military and economic strategies for securing national interests; a discussion of selected crises in American foreign policy since 1945. *Mr. Waltz*

POLITICS 178b. International Politics in the Pacific Area

Analysis of the forces underlying international relations in the Pacific area in the twentieth century. Topics include: Soviet-Asian policies, the strategic position of the emergent Southeast Asian states, Sino-Japanese conflict, America's stake in Asia, Communist China's foreign policy; prospect for peace in the Pacific. *Mr. Sacks*

POLITICS 204b. International Politics

An examination of approaches, concepts, and theories in the field of international politics. *Mr. Waltz*

See also Politics 164a, Comparative Foreign Policy, listed under Comparative Politics

POLITICAL THEORY AND METHODS

POLITICS 182a. Political Thought from Plato to Rousseau

An examination of major political theories in the context of the intellectual climate of their day. Subjects considered will include: Greek thought, the medieval heritage, the humanist renaissance, the Reformation and the Enlightenment. *Mr. Waltz*

*POLITICS 186b. Political Philosophy of the Enlightenment

POLITICS 187a. Liberalism as Political Force and Idea

An examination of the genesis, rise, supremacy and eclipse of liberal politics, with primary emphasis on the twentieth century. The role of mass society, industrialization, war, technology, and adversary ideologies will be considered. Focus on structures as well as theories. *Mr. Kelly*

*POLITICS 191b. Contemporary Political Theory

*POLITICS 193b. Seminar in Selected Topics in Political Theory

POLITICS 195a. Research Methods and Techniques

Problems of measurement, survey research, computer analysis of data, cost-effectiveness in research. New techniques of political research and information handling will be discussed in some depth. Methods for evaluating social and political change will be treated. *Mr. Roos*

* Not to be given in 1969-70.

***POLITICS 195b. Elite and Mass in Contemporary Society**

This course will consider elite-mass relations and characteristics in several modern and modernizing countries. Questions of elite recruitment and socialization will be raised; the lectures and discussion will also deal with how the mass attempts to control the elite and vice versa.

POLITICS 255b. Seminar: Kant, Hegel, Marx

A close examination of major political and related writings of Kant, Hegel, and Marx with special attention to their philosophical and sociological importance. Some other writings briefly treated. Informal class reports. No language requirements, but German or French would be very useful. *Mr. Kelly*

See also Politics 117b, American Political Thought, listed under American Government.

POLITICS 301-316. Readings in Politics

- | | |
|--------------------------|-----------------------------|
| 301. <i>Mr. Art</i> | 309. <i>Mrs. Morgenthau</i> |
| 302. <i>Mr. Bardach</i> | 310. <i>Mr. Nordlinger</i> |
| 303. <i>Mr. Fuchs</i> | 311. <i>Mr. Raymond</i> |
| 304. <i>Mr. Hindley</i> | 312. <i>Mr. Roche</i> |
| 305. <i>Mr. Kelly</i> | 313. <i>Mr. Roos</i> |
| 306. <i>Mr. Lerner</i> | 314. <i>Mr. Sacks</i> |
| 307. <i>Mr. Levin</i> | 315. <i>Mr. Waltz</i> |
| 308. <i>Mr. Macridis</i> | 316. <i>Mr. Woll</i> |

POLITICS 400-415. Dissertation Research

Independent research for the Ph.D. degree.

- | | |
|--------------------------|-----------------------------|
| 400. <i>Mr. Art</i> | 408. <i>Mrs. Morgenthau</i> |
| 401. <i>Mr. Bardach</i> | 409. <i>Mr. Nordlinger</i> |
| 402. <i>Mr. Fuchs</i> | 410. <i>Mr. Raymond</i> |
| 403. <i>Mr. Hindley</i> | 411. <i>Mr. Roche</i> |
| 404. <i>Mr. Kelly</i> | 412. <i>Mr. Roos</i> |
| 405. <i>Mr. Lerner</i> | 413. <i>Mr. Sacks</i> |
| 406. <i>Mr. Levin</i> | 414. <i>Mr. Waltz</i> |
| 407. <i>Mr. Macridis</i> | 415. <i>Mr. Woll</i> |

• Not to be given in 1969-70.



Psychology

Objectives

The graduate program in psychology leading to the degree of Doctor of Philosophy is designed for students of promise in the field of general psychology including theoretical, historical and experimental studies and research projects. Courses and seminars in special areas, such as physiological psychology, are offered to all graduate students, but no specialized training or special degrees are given. Graduate programs reflecting a balanced exposure to diverse areas in the field of psychology are arranged by the student in consultation with his faculty adviser and are reviewed by the department faculty.

All regular graduate students pursue programs leading to the Ph.D. degree. The Ph.D. program includes fulfilling the requirements for the degree of Master of Arts, which are (a) the successful completion of a year of graduate work, (b) the demonstration of reading proficiency in one foreign language, (c) the completion of a Master's thesis, and (d) passing an oral or written qualifying examination in the area of the thesis or one of the regularly scheduled qualifying examinations. Candidates for the degree of Master of Arts only are not admitted. Special students, who are not candidates for a degree, may occasionally be admitted; such admissions are for one year and may be renewed upon petition.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

An undergraduate major in psychology is not required, although it will be favored. Students with inadequate preparation may make up their deficiencies during their first year, but without residence credit. Preference will be given to students who have completed, in addition to basic courses in theoretical and experimental psychology, a broad liberal arts program with some training in the natural and social sciences. Students will be admitted on a competitive basis which will include evaluation of previous academic record and the results of the Graduate Record Examinations (Advanced, Aptitude and Profile Tests), and the Miller Analogies Test.

Faculty

Professor RICARDO B. MORANT, *Chairman*: Experimental psychology. Developmental psychology. Perceptual mechanisms. Sensation and perception.

*Professor EUGENIA HANFMANN: Clinical psychology. Personality theory.

Professor BRENDAN A. MAHER: Experimental clinical psychopathology. Conflict. Language.

*Professor ABRAHAM H. MASLOW: Personality theory. Transcendence theory. Experiential approaches to personality.

Professor HARRY RAND: Clinical practice and training.

*Professor MARIANNE L. SIMMEL: Sensory physiology. Cognitive processes. Perception.

Visiting Professor WALTER TOMAN: Clinical psychology. Child psychology. Psychoanalytic theory.

Associate Professor MAURICE HERSHENSON: Perception. Developmental theory.

*Associate Professor JAMES B. KLEE: Motivation and emotion. Symbolic and cognitive processes. Human and animal learning.

*Associate Professor JEROME WODINSKY: Comparative psychology. Learning theory. Sensory physiology.

Assistant Professor JOHN FREDERIKSEN: Mathematical psychology.

Assistant Professor RICHARD KATZ: Non-verbal communication. Personality.

Assistant Professor HARVEY LONDON: Social psychology. Group dynamics.

Assistant Professor MELVIN SCHNALL: Child and developmental psychology.

Assistant Professor SIDNEY STECHER: Psychophysics. Experimental psychology. Sensory psychophysiology.

Assistant Professor ARTHUR WINGFIELD: Human memory. Cognitive processes. Experimental psychology.

Adjunct Lecturer DONALD B. GIDDON: Physiological psychology. Psychosomatic relations.

* On Leave, 1969-70.

Visiting Lecturer INA SAMUELS: Physiological psychology. Motivation and emotion. Personality.

Lecturer JOHN W. SENDERS: Statistics.

Degree Requirements

Doctor of Philosophy

Four years of full-time graduate study are usually required for the Ph.D. During the first two years, the student will carry fifteen credit units per semester. The ordinary program for the first year of study includes (a) Psychology 300 (Departmental Colloquium); (b) Psychology 200a and b (Observation and Research Strategies in Psychology); (c) Psychology 204a and b (Contemporary Issues in Psychology); (d) Psychology 210a and b (Advanced Psychological Statistics); and (e) one other seminar or course at the 100 level or above, each semester.

During the second year of study, students are required to take five courses or seminars each semester including Psychology 300 (Departmental Colloquium) and Psychology 250 (Master's Research). Psychology 290-299 (Readings in Psychological Literature) may be taken one semester. Third year students are expected to attend departmental colloquia and to enroll in at least one seminar each semester. Students may audit any courses or seminars with the permission of the instructor. Courses or seminars in other departments may be taken for degree credit only with the permission of the course instructor and the Psychology Department faculty.

Evaluation of Proficiency. A. Students are expected to achieve a thorough knowledge of fundamentals in certain areas of psychology during their first three years. Two general areas and six special areas have been defined by the faculty as follows:

a. *General Areas:*

1. History and Systems
2. Statistical Methods

b. *Special Areas:*

Group A:

1. Sensation and Perception
2. Learning and Thinking
3. Physiological and Comparative Psychology

Group B:

4. Personality and Motivation
5. Psychopathology and Clinical Psychology
6. Child and Social Psychology

Students must take the two general area examinations in written form. In addition, examinations must be taken in three of the special areas, two from one of the groups and one from the other. The special areas examinations may be written or oral, at the student's option. Examinations may be taken separately, and are offered in October, January and May. Students should register for examinations they wish to take three weeks before the scheduled date. Reading lists are provided for each area, and a designated faculty member is available for consultation concerning preparation for any examination.

Students are expected to take at least two examinations prior to the end of their third term in residence, and to fulfill all requirements described in this section by the end of the third year in residence.

The above qualifying examinations are meant as a sampling of the student's proficiency in general psychology, and should not exhaust the student's efforts to achieve a general background in psychology. The student's achievements in seminars, courses and research activities provide an important measure of competence in areas not selected for examination. Students will select at least one seminar from each of the three special areas in which qualifying examinations are not taken. The students will be informed of any deficiencies as soon as they are evident or, in any case, no later than the beginning of the fourth year of study.

Individual Research. Each student is expected to engage in research with the aim of developing competence in its planning, practice, and evaluation.

Teaching. Each student is expected to do some undergraduate teaching to develop competence in teaching, whether or not he receives remuneration as a teaching assistant.

Language Requirement. Reading proficiency in at least one foreign language is required. This language must be one in which substantial psychological literature exists. Language examinations are offered by the department four times a year, usually in September, December, February and May. Students are expected to satisfy the language requirement as soon as possible. By regulation of the Graduate School, a student who has not passed an examination in at least one foreign language by the end of his first year of study will not be eligible for financial aid from the university for the second year.

Admission to Candidacy. A student may be admitted to candidacy for the doctorate when he has fulfilled the above requirements.

Dissertation and Defense. Following the completion of all examinations, the student will prepare a prospectus of the proposed dissertation study in consultation with a faculty dissertation sponsor. The prospectus may be based

on preliminary research conducted prior to the student's admission to candidacy for the doctorate. Upon approval by the faculty of the department, a dissertation committee of three or more members will be appointed by the department chairman, including the dissertation sponsor as chairman of the committee. The dissertation sponsor will be responsible for advising the student throughout the performance of his work, in consultation with the remaining members of the committee at appropriate times in the course of the work. From time to time, the committee will report the student's progress to the department faculty.

The student may, if he wishes, ask the department for *formal acceptance* of his prospectus. A prospectus that is to be formally accepted must provide a detailed outline of the experimental work to be done (if any) and of its theoretical basis. Such a prospectus will be voted upon by all members of the department. Once the department has formally accepted a prospectus, it will consider itself bound to accept the resulting dissertation as well, regardless of the experimental results, provided that the proposed work has been carried out.

When the student has presented a dissertation prospectus, whether or not he asks for formal acceptance, his dissertation committee will be responsible for evaluating his competence in the field of psychology within which the dissertation falls. This field will ordinarily include more than one of the areas defined above and may include such related areas as sociology, linguistics, one or more physical sciences, etc. The committee may, at its discretion, require written examination in the thesis field as a whole or in any part of it.

The dissertation should provide evidence of originality, scholarship and research ability. It should be a contribution to knowledge, ordinarily an experimental investigation, but not necessarily so. Upon submission to the chairman of the department of a copy of the thesis, signed by all three members of the thesis committee, and a successful defense of the thesis before all members of the department, the award of the Ph.D. will be recommended to the Faculty Council of the Graduate School.

Courses of Instruction

PSYCHOLOGY 115a. Experiential Approaches to the Study of Personality

A research-oriented examination of transformations of consciousness such as occur in "peak" or "psychedelic" experiences. Techniques for evoking these transformations of consciousness, for example, the "solo" experience and personal growth communities. Assessment of these transformations. The relationship between these transformations and society. Cross-cultural emphasis.

Enrollment limited to fifteen students.

Mr. Katz

PSYCHOLOGY 118b. Physiological Psychology

Those aspects of physiology most relevant to psychological investigation: the

anatomy and physiology of receptor and effector organs, the neuron and synapse, sensory and motor neural pathways, the integrative activity of the central nervous system, the autonomic nervous system and the action of hormonal factors.

Mr. Stecher

PSYCHOLOGY 119b. Comparative Psychology

Comparison of the behavior of various species, including man, in an evolutionary perspective.

Miss Samuels

PSYCHOLOGY 120a. Experimental Psychology

Individual or group research carried out under supervision. Techniques of experimentation, experimental design. 4 credits. Messrs. Morant and Wingfield

PSYCHOLOGY 120aR. Experimental Psychology

Messrs. Wingfield and Morant

PSYCHOLOGY 122b. Advanced Experimental Psychology *Mr. Hershenson*

*PSYCHOLOGY 123b. Non-Verbal Experience and Communication

An attempt to understand non-verbal experience and communication by examining specific non-verbal media such as body language and selected art forms. These media as expressive modes, stimulus material and assessment techniques. Cross-cultural emphasis.

Prerequisite: Permission of the instructor.

Enrollment limited to fifteen students.

PSYCHOLOGY 124b. Human Memory

A detailed examination of traditional and contemporary views on the nature and processes involved in short- and long-term memory.

Mr. Wingfield

PSYCHOLOGY 130b. Psychology of Problem Solving and Learning

A study of the creative process, its background and consequences and its relation to perception and learning theory.

Enrollment limited to juniors, seniors and graduate students. *Mr. Hershenson*

*PSYCHOLOGY 131b. Psychology of Symbolic Processes

Culture as studied primarily from the frame of reference of psychology. Dreams, myths, and art as created, expressed, and as used in language, the humanities and sciences will be studied as psychological data. The place of psychology in relation to the humanities and the other sciences will be evaluated.

Enrollment limited to juniors, seniors and graduate students.

*PSYCHOLOGY 132b. Psychology of Emotions

A consideration of the value dimension of the individual's dynamic relation to the world about him in both its positive and disruptive aspects.

Enrollment limited to juniors, seniors and graduate students.

*PSYCHOLOGY 133a. Choice, Will and the Ego

A revaluation of the "active person." Choice, freedom, and responsibility will be considered as psychological problems. A study will be made of the relevance to choice and action of hedonics, knowledge, reason, and religion, and of man's

* Not to be given in 1969-70.

relation to the perception of good and evil, sickness and health. An assessment of the individual's role in disease and conflict.

Enrollment limited to juniors, seniors and graduate students.

PSYCHOLOGY 134a. Abnormal Psychology

A socio-psychological and dynamic approach to behavior pathology with emphasis on current theories of pathogenic family structure.

Mr. Maher

*PSYCHOLOGY 134aR. Abnormal Psychology

PSYCHOLOGY 137a. Personality

Selected personality variables and how they have been investigated. Topics will be studied so as to show their relationship to influential psychological theories.

Not open to students who have taken 138b.

Mr. London

PSYCHOLOGY 137aR. Personality

Mr. Maher

PSYCHOLOGY 140b. Learning and Behavior

Current theories of learning will be explored in the light of experimental evidence derived from human and animal studies.

Mr. Mulholland

PSYCHOLOGY 141a. Biological Bases of Motivation

Topics to be treated include hunger, thirst, migration, sexual behavior and parental behavior. Evidence from biology, neurophysiology and endocrinology will be evaluated.

Enrollment limited to fifteen students.

Miss Samuels

PSYCHOLOGY 142b. Psychosomatics

The interrelationships of psychological, social and cultural factors in physical disease. Topics include psychophysiological mechanisms in disease, physiological correlates of mental disease and "somato-psychic problems."

Mr. Giddon

PSYCHOLOGY 143b. Cognitive Processes

Experiments in language, thinking and attention, with special reference to psychopathology.

Prerequisite: Psychology 50b or permission of the instructor.

Enrollment limited to fifteen students.

Mr. Maher

*PSYCHOLOGY 144b. The Psychology of Language

Language development; names, concepts and symbols; expressive language; metaphor; problems of translation; pathology of language.

Enrollment limited to fifteen students.

PSYCHOLOGY 145a. Psychopathology of Childhood

Theoretical and therapeutic implications of disorders in childhood, focusing on mental retardation and childhood psychosis.

Enrollment limited to fifteen students.

Mr. Schnall

***PSYCHOLOGY 146a. Psychopathology and Cognition**

Alterations of perceptual and conceptual processes in brain-injured and schizophrenic patients.

Enrollment limited to fifteen students.

***PSYCHOLOGY 150b. The Psychology of Religious Experience**

A study of selected examples of religious experience, both contemporary and historical.

Enrollment limited to fifteen students.

***PSYCHOLOGY 151b. Utopian Social Psychology**

How good a society does human nature permit? Readings in Utopian literature and in normative social psychology.

Enrollment limited to seniors and graduate students in psychology and contiguous fields.

PSYCHOLOGY 152b. Group Dynamics

A consideration of classical and current experimental approaches to the study of human interaction. Topics will include: history of group dynamics; conformity; obedience; group cohesiveness; social communication; social deviance; group affiliation; social determinants of emotion, etc.

Enrollment limited to fifteen students.

Mr. London

PSYCHOLOGY 155b. Advanced Educational Psychology

This seminar will intend to apply the emerging principles of humanistic and transhumanistic psychology to the problems of learning, teaching and education.

Enrollment limited to senior majors in Psychology with permission of the instructor; all graduate students.

Mr. Katz

PSYCHOLOGY 159a. Perception

A survey of the field of perception with emphasis on theory and mechanisms. The interrelationship of perception and personality, phenomenology, social factors and sensory processes will be discussed.

Mr. Stecher

PSYCHOLOGY 160b. Color Vision and Visual Processes

Basic parameters and experiments governing visual processes and visual perception will be examined. Particular emphasis will be paid to color vision, theories and data from the points of view of physics, biology, psychology, art and aesthetics.

Mr. Stecher

PSYCHOLOGY 161. Field Work in Clinical Psychology

Mr. Toman

PSYCHOLOGY 200a and b. Observation and Research Strategies in

Psychology

Mr. Morant and Staff

PSYCHOLOGY 202b. Seminar in Mathematical Psychology

An examination of current mathematical applications in the behavioral sciences.

Mr. Senders

PSYCHOLOGY 204a. Contemporary Issues in Psychology

Messrs. Wingfield and Stecher

* Not to be given in 1969-70.

PSYCHOLOGY 204b. Contemporary Issues in Psychology

Messrs. Katz, Schnall and London

*PSYCHOLOGY 205b. Seminar in Memory, Attention and Language

Recent research and theoretical developments in the study of memory as they relate to traditional and contemporary views of selective attention and language in man.

PSYCHOLOGY 206a. Seminar in Learning

To be announced

PSYCHOLOGY 207a. Seminar in Perception

A survey of information processing, approaches to perception, perceptual memory and recognition.

Mr. Hershenson

PSYCHOLOGY 207aR. Seminar in Perception

Mr. Morant

*PSYCHOLOGY 208a. Seminar in Cognition

A critical examination of selected topics and issues, with major emphasis on the study of thinking and problem solving.

PSYCHOLOGY 209a. Seminar in Physiological Psychology

Discussion of recent research in the area of neurophysiological mechanisms underlying sensory behavior. Empirical data and theories will be discussed and evaluated.

Mr. Stecher

PSYCHOLOGY 210a. Advanced Psychological Statistics

Mr. Senders

PSYCHOLOGY 210b. Advanced Psychological Statistics

Mr. Frederiksen

PSYCHOLOGY 211b. Seminar in Developmental Psychology

Selected topics in cognitive development research and general developmental theory. Emphasis on Piaget's work and current empirical literature pertaining to behavior organization in infancy, language development and development of conception and logic.

Mr. Schnall

PSYCHOLOGY 212a. Methodology for Research in Personality

Modes of observation, simple experimental intervention, the basic methods of experimental control, the interview, the formulation and testing of hypotheses, use of personal experience, the function of prediction and the implications of confirmation and disconfirmation.

Mr. Maher

*PSYCHOLOGY 214a. History of Psychological Thought

PSYCHOLOGY 215a. Psychological Scaling Methods and Theory

This course will consider methods for obtaining metric information from comparative or categorical judgment data. Topics to be covered will include: basic measurement theory, psychophysical scaling, Thurstonian scaling methods, signal detection theory, multidimensional scaling, and techniques for hierarchical cluster analysis.

Prerequisite: Psychology 210a or the equivalent.

Mr. Frederiksen

*PSYCHOLOGY 216a. Selected Clinical Topics

PSYCHOLOGY 217b. Research Seminar in Clinical Psychology

The components of psychological interviewing, especially of "listening," inquiry, commentary, and interpretation to the client, as well as eventual conceptualization for purposes of record and/or research will be demonstrated, practiced and studied.

Prerequisites: Psychology 200a and b, 212a, or permission of the instructor.

Mr. Toman

PSYCHOLOGY 218a. Seminar in Social Psychology

This course will provide a general framework for understanding contemporary social psychological theory and research and a feel for the process of research by examining in critical detail one or two key lines of investigation.

Mr. London

PSYCHOLOGY 221. Clinical Psychopathology

Mr. Rand

PSYCHOLOGY 250-262. Master's Research

Research for the M.A. degree under the supervision of:

250. *Mr. London*

256. *Mr. Schnall*

251. *Mr. Hershenson*

257. *Mr. Senders*

252. *Mr. Katz*

259. *Mr. Stecher*

254. *Mr. Maher*

260. *Mr. Wingfield*

255. *Mr. Morant*

262. *Mr. Frederiksen*

PSYCHOLOGY 290-299. Readings in Psychological Literature

290. History and Systems

291. Statistical Methods

Mr. Stecher

292. Sensation and Perception

Mr. Wingfield

293. Learning and Thinking

Miss Samuels

294. Physiological and Comparative Psychology

Mr. Stecher

295. Personality and Motivation

Mr. Maher

296. Psychopathology and Clinical Psychology

Mr. Katz

297. Child and Social Psychology

Mr. Schnall

298. Advanced Readings in Experimental Psychology

Staff

299. Advanced Readings in Dynamic Psychology

PSYCHOLOGY 300. Department Colloquium and Research Seminar

Mr. Morant and Staff

*PSYCHOLOGY 301. Seminar in Advanced Psychological Topics I

PSYCHOLOGY 400-408. Dissertation Research

Independent research for the Ph.D. degree.

400. *Mr. Klee*

405. *Miss Simmel*

401. *Mr. Maher*

406. *Mr. Wodinsky*

402. *Mr. Morant*

407. *Mr. Hershenson*

403. *Mr. Schnall*

408. *Miss Hanfmann*

404. *Mr. Senders*



Sociology

Objectives

The graduate program in sociology is primarily a doctoral program and is designed for students who intend to devote themselves to teaching and research in sociology. The student may, by satisfying certain requirements, receive the M.A. degree during his course of study. The general objective is to educate students in the major areas of sociology with specialization in several of them.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Sociology Department.

In addition, all prospective students are encouraged to submit written material (papers, etc.) representative of their best work, which need not be, however, of a sociological nature.

Faculty

Professor PHILIP E. SLATER, *Chairman*: Family. Small groups.

Professor EGON BITTNER: Sociology of law. Social controls.

Professor Emeritus EVERETT C. HUGHES: Social organization. Race and ethnic relations. Occupations and work systems.

Visiting Professor PAUL KECSKEMETI: Social theory. Political sociology.

Visiting Professor LEO MARX: Sociology of literature.

Professor MORRIS S. SCHWARTZ: Social psychology. Social psychiatry.

*Professor MAURICE R. STEIN: Communities. Sociology of literature.

Professor KURT H. WOLFF: Sociological theory. Sociology of knowledge.

*Adjunct Associate Professor B. SVI SOBEL: Sociology of religion. Sociology of the Jews.

Associate Professor IRVING K. ZOLA: Deviance. Sociology of health and illness.

* On Leave, 1969-70.

Assistant Professor JEROME BOIME: Social and political theory; the relation of violence to social structure.

Assistant Professor GORDON FELLMAN: Social psychology. Stratification. Comparative sociology.

Assistant Professor CHARLES FISHER: Sociology of science. Collective behavior.

Assistant Professor NEIL FRIEDMAN: Race relations. Urban sociology.

Assistant Professor ROSABETH MOSS KANTER: Social organization. Social psychology. Utopian communities.

Assistant Professor LARRY ROSENBERG: Field methods. Social psychology of consciousness.

Assistant Professor RICHARD SENNETT: Urban sociology.

*Assistant Professor SAMUEL E. WALLACE: Field methods. Violence.

Lecturer CALVIN HICKS: Race and class. Contemporary social change.

In addition to the general fields represented by the above instructors, there are two special training programs: Field Methods Training Program and the Social Organization of Medical Care. For further information, please write to the Sociology Department.

Degree Requirements

Doctor of Philosophy

Program of Study. All entering students are expected to enroll in courses prescribed for the first year. If credit is granted for graduate work done at other institutions, normally it will be applied to the second year. In exceptional circumstances, the student may request departmental approval to substitute credit for work done elsewhere for the courses required in the first year. Substitution may depend upon examination in the course to be waived.

The program for the Ph.D. degree is ordinarily completed in three stages:

First Year

Fall Term: Sociology 200a; Sociology 203a; Sociology 204a and Sociology 290.

Spring Term: Sociology 200b; Sociology 203b or Sociology 204b; and Sociology 290.

During the first year, the student is required to take only Sociology 290.

Second Year

Sociology 300c and six elective courses, three of which should be seminars or reading courses.

During the second year, after the student has passed one language examination and has completed three terms in residence at full-time, he may petition the department chairman for admission to candidacy for the M.A. degree. If the department judges that preparation for the degree has been sufficient, the student will be invited to submit to the department two papers written during this period for approval as Master's papers.

Third Year

Sociology 400: Dissertation Research.

Residence Requirement. The minimum residence requirement for the degree of Doctor of Philosophy is two years. It is expected that the Ph.D. will be earned within five years.

Language Requirements. Candidates for the Doctor's degree must demonstrate proficiency in two foreign languages, ordinarily French and German. Another language may, upon petition to the department, be substituted for either French or German.

Qualifying Examinations. All graduate students will be required to take qualifying examinations during their third year in the program with the exception of those students who have received credit for work done elsewhere. Those students will take the qualifying examinations during the second year in the program. The examinations are designed to test competence in three broad fields of sociology. The choice of fields will be determined by the student in consultation with his advisor and will be subject to departmental approval.

Except in the case of transfer students where a special date may be set, the initial choice of fields should be made by March 15 of the second year in residence. After the fields have been approved and an examining committee appointed, the student will meet with the committee to determine the literature for which he will be held responsible. This initial meeting shall take place at least six months prior to the examination. The examination itself will be a written one which will be completed on a take-home basis.

Admission to Candidacy. A student shall be eligible for admission to candidacy when he has fulfilled his residence requirements, demonstrated proficiency in two foreign languages, passed the departmental qualifying examination, and had his dissertation proposal approved.

Dissertation and Final Oral Examination. The candidate will be required to prepare a prospectus for his dissertation before he begins concentrated work. This prospectus must be prepared within six months after he has passed the qualifying examinations and must be approved by the student's advisory committee and by the department.

When the dissertation is accepted by the department, a final oral examination will be scheduled, wherein the candidate must successfully defend his dissertation before the department members and at least one member of the faculty engaged in graduate instruction outside the department.

Courses of Instruction

SOCIOLOGY 100a. Development of Modern Sociology

A review of the major achievements of empirical inquiry in European and American sociology from the middle of the nineteenth century to the middle of the twentieth century. *Mr. Bittner*

SOCIOLOGY 101a. Sociology of Conflict and War

Antagonistic processes in various social settings. Antagonism and the social structure. Crisis situations. Origin and resolution of crises. Effects of crises. Evolution and revolution. *Mr. Kecskemeti*

SOCIOLOGY 102a and b. Social Psychiatry

Topics such as the following will be explored: psychological and sociological definitions of mental illness and health; the pathological, the disturbed and the disturbing in our personal lives, specialized roles, institutional structures and societal forms. Small group discussions will be oriented toward understanding the manifestation of pathology and interpersonal difficulty. *Mr. Schwartz*

*SOCIOLOGY 103a. Sociology of Religion

Sociological analysis of contemporary and historical institutions and experiences. Church, sect and denomination. Religion and political orientation.

SOCIOLOGY 104b. Sociology of Education

What is relevant education at the elementary, secondary, and college levels; what are the political, economic, social, and psychological constraints on education which often keep it irrelevant. *Mr. Friedman*

*SOCIOLOGY 105b. Sociology of Modern Anti-Semitism

Sociological analysis of contemporary forms of anti-Semitism. Various theories, both past and present, attempting to explain the phenomenon will be examined critically.

Admission by consent of instructor.

SOCIOLOGY 106a and b. Sociology of Literature

The relations between society and literary forms in selected historical periods. Emphasis on the relations between problems and methods in inquiry as presented by sociological and humanistic students of man.

Prerequisite: Permission of the instructor.

Mr. Marx

SOCIOLOGY 107a. Issues in Social Psychology

A survey and critical evaluation of selected theories of the self which stress social communication (e.g., James, Mead, Goffman, Sullivan, Laing, and Gurdjieff).
Mr. Rosenberg

SOCIOLOGY 110b. Sociology of Knowledge

History and historical interpretation of the sociology of knowledge, with particular emphasis on German and recent American literature.
Mr. Wolff

SOCIOLOGY 111b. Political Sociology*SOCIOLOGY 112b. Social Stratification**

A study of life styles and relationships among different "classes" in American society, theories of social class and political order, and studies of class and social change in revolutionary and other societies.
Mr. Fellman

***SOCIOLOGY 115b. Sociology of the American Churches**

The major sociological and theological characteristics of the American churches; church membership and church organization; the relationship of the churches to the power structure and to each other; Catholics and Jews; the "majority" churches in a pluralistic society.

SOCIOLOGY 116a. Topics in Social History of Black People in America

This course will cover one or more aspects of the black experience. Exact topic or topics will depend upon the development of the African-Afro-American Studies Department.
Mr. Friedman

***SOCIOLOGY 117a. Sociology of Occupations**

A comparison of work and occupational systems in various cultures. Social organization of occupations and the place of work in the life of the individual.

SOCIOLOGY 118a. Sociology of the American Jew

See NEJS 163a for description.

Mr. Sklare

SOCIOLOGY 118b. Jewish Communal Structure and Organization

See NEJS 163b for description.

Mr. Sklare

SOCIOLOGY 122a. Sociology of Power

An analysis of the consolidation and disaffection of political interaction, obedience and ideology, proceeding on the assumption that the political problem designates a tension between the inhibition and release of alternative forms of community.
Mr. Boime

***SOCIOLOGY 125a. Quantitative Methods in Research**

The uses of statistics in the organization, interpretation, and presentation of research data, with emphasis on the ideas underlying the development and use of statistical techniques.

* Not to be given in 1969-70.

SOCIOLOGY 126a. Sociology of Deviance

Deviance as a social process, its nature and conception, its functional as well as dysfunctional aspects. Survey of theory and research. Concentration on selected instances of individual and social pathology. *Mr. Zola*

SOCIOLOGY 126b. The Institutions of Social Control

Focus is primarily on the social and institutional response to deviance, however defined, once it occurs. The formal and informal sanctions, the range of punishments from norms to laws, from hospitals to prisons. The agents of social control—the police, the F.B.I. and the other “helping” professions. *Mr. Zola*

SOCIOLOGY 127b. Deviant Communities

The origins, recruitment, and socialization practices, life styles, social control processes, and societal relations of unconventional and deviant communities, including religious, political, and criminal groups. The nature of conventional communities will be understood in comparison. Readings will encompass material from the areas of deviance, collective behavior, social movements. Field work will be required. *Mrs. Kanter*

SOCIOLOGY 129b. The Urban Family

An exploration of what role the city now plays in shaping the patterns of people's lives in families. The course explores such questions as what kinds of city conditions affect the quality of nurturance in families, how the structure of the city can be related to the freedom family members have in their dealings with each other or to the freedom family members have for complex associations outside the family group. *Mr. Sennett*

***SOCIOLOGY 130a. The Family**

The family in relation to its societal context and the personality development of the child. Cross-cultural materials will be emphasized.

SOCIOLOGY 132b. Urban Sociology

A consideration of major problems of American cities: transportation, poverty, education, housing, ethnic relations, riots and rebellions. Relations between these problems, sociological theories of the city, and attempts to solve the problems. *Mr. Friedman*

SOCIOLOGY 133b. Comparative Urban Cultures

This course will attempt to define the range of complexity in city life by making a series of cultural comparisons between cities; the course will focus on working-class people, and attempt to judge whether and in what ways different kinds of city structures affect the quality of their lives. *Mr. Sennett*

SOCIOLOGY 135a. Group Process

Interpretation of interpersonal behavior and group development, based in part on observation of the discussion group itself. Readings will include material from psychology and social anthropology as well as sociology. *Mr. Slater*

SOCIOLOGY 135aR. Group Process

Mr. Slater

* Not to be given in 1969–70.

SOCIOLOGY 135b. Advanced Group Process

A continuation of Sociology 135a.

Open to students who have taken Sociology 135a.

Mr. Slater

SOCIOLOGY 142a. Social Psychology: Psychoanalytic Theory and Society

Implications of the psychoanalytic view of personality for the nature and functioning of social institutions, social change, and the possibilities of Utopia.

Mr. Fellman

SOCIOLOGY 143a. Ethnographic Studies in Social Interaction

In this course students will carry out field work studies of social interactions. There will be field exercises, theoretical readings, class discussions, and lectures. A major paper will be required.

Enrollment limited to twenty-five students.

Mr. Friedman

***SOCIOLOGY 143b. Ethnographic Studies in Social Interaction**

A continuation of Sociology 143a.

Open to students who have taken Sociology 143a or by permission of the instructor.

***SOCIOLOGY 144b. Kinematics of Social Organizations**

The placement and displacement of persons through time and in space. An attempt will be made to build a theory which addresses social interaction in terms of the tension between the privilege of station and the privilege of motion.

***SOCIOLOGY 145. Sociology of Life Styles**

Examination of patterns of living in society with focus upon the influences which lead individuals into one route rather than another, the constellation of behaviors characteristic of several distinct styles, the inter-connections between styles, and their meaning for modern society. Both approved and disapproved styles will be examined.

SOCIOLOGY 147a and b. Social Psychology of Organizations and Groups

The impact of social structure and social arrangements on individuals and groups. Issues such as communication and trust, authority and influence, self-identity-formation and personal change, and teaching and learning will be examined in a large number of organizations and groups, including the class group itself, school (from ghetto to progressive schools to universities), mental hospitals, Synanon, and other peer-self-help groups, "brainwashing" organizations, bureaucracies and work organizations, utopian communities, religious orders, and encounter groups. Field work and extensive participation in class discussions and group exercises will be required.

Mrs. Kanter

SOCIOLOGY 148a. Social Psychology of Consciousness

The course will be organized around the concept of "conscious energy" as revealed in some of the many programs designed to awaken higher levels of consciousness (e.g., Zen, Yoga, Sufism, psychedelic drugs, and the teachings of G. I. Gurdjieff). The course will include a workshop in Hatha Yoga.

Mr. Rosenberg

SOCIOLOGY 148b. Social Psychology of Consciousness

A continuation of Sociology 148a.

Open to students who have taken Sociology 148a or with permission of the instructor.

Mr. Rosenberg

SOCIOLOGY 149b. Psychedelic Drugs and Society

An exploration of ethnographic, historical and literary descriptions, as well as psychiatric research concerned with the uses of hallucinogenic drugs.

Mr. Rosenberg

***SOCIOLOGY 151b. Environmental Research**

Research in environments selected for study utilizing a multiplicity of instruments include questionnaires, interviews, diaries, case histories, tape recorders, photographs, films and other related media.

***SOCIOLOGY 152b. Field Research**

The examination, study and application under close supervision of the methodology of participant observation.

Mr. Miller

SOCIOLOGY 154b. Sociology of Science

Science is studied as it is done by men who live in political, social, intellectual, professional, and moral worlds.

Mr. Fisher

***SOCIOLOGY 155a. Collective Behavior**

Sociological analysis of public events and their reconstruction. This includes crowds and social movements, how they are organized and later described in the press and by history.

SOCIOLOGY 155b. Social Movements

Social movements in the contemporary world. A special emphasis is placed upon student activism, ethnic rights movements, and university uprisings.

Mr. Fisher

SOCIOLOGY 169a. Religion and Ethnicity in American History

See American Civilization 169a.

Mr. Fuchs

***SOCIOLOGY 170b. Americans Overseas**

See American Civilization 170b.

SOCIOLOGY 171a. Afro-Americans in the United States

See American Civilization 150a.

Mr. Fuchs

SOCIOLOGY 172b. The Family in the United States

See American Civilization 150b.

Mr. Fuchs

***SOCIOLOGY 188b. Sociology of Law**

The legal order considered in a framework of cross-cultural and historical comparison. The role of the instruments of the law and of the administration of justice in contemporary society.

* Not to be given in 1969-70.

SOCIOLOGY 190b. Social Organization of Medical Settings

An analysis of the structural arrangements of medical practice and of medical settings. Problems of communication and role relationships among professionals and between patients and medical personnel will be examined. The impact of structures and role relationships on quality and quantity of medical care and on use of resources will be analyzed.

Mr. Zola

SOCIOLOGY 191a. Health, Community, and Society

An exploration into the interrelationships of the nature of society and societies on the existence and treatment of health and illness. Topics include: conceptions of health and illness, patient careers, and the place of social science in medicine.

Mr. Zola

SOCIOLOGY 192. Sociology of the Medical Professions

This course will provide an analysis of the key occupational groups in medicine, as well as of quasi and marginal practitioners. The selection, recruitment and training of those groups will be examined and the strategic points in their careers will be considered.

Mr. Zola

*SOCIOLOGY 193b. Demographic, Ecological, and Economic Factors in Medical Care

Analysis of the relevance of demographic, ecological and economic factors in the structure and provision of health services. Current emphases in community health programs and medical care practice will be described and examined. The structure and provision of health services in other cultures will be considered and compared with those in the United States.

SOCIOLOGY 194. Methods of Social and Economic Research in Medical Care

The utility and application of sociological, economic and epidemiological methods will be discussed. Problems of measurement, design and analysis will be examined as well as the practical problems in implementing studies in the field of medical care.

Mr. Freeman

*SOCIOLOGY 195. Field Work in Medical Settings

Credit hours to be arranged.

SOCIOLOGY 200a and b. Classical Sociological Theory

Study of major sociologists, such as Comte, Spencer, Marx, Durkheim, Pareto, Weber, Simmel, Ward, Ross, Sumner, Park, Mannheim, in their historical setting, with special attention to their substantive concerns and methodologies.

1st sem., Mr. Boime

2nd sem., Mr. Kecskemeti

SOCIOLOGY 202a and b. Modernization: An Interdisciplinary Seminar

An exploration of selected problems and processes of modernization, with reference to both the "developed" and the "underdeveloped" states and the relationships between them.

Messrs. Bittner, Lubasz, Weingrod and Worsley

SOCIOLOGY 203. Field Methods in Sociological Research

Intensive practice in sociological observation and concentrated field work along with readings and discussion of the theoretical issues involved. *Mr. Fisher*

SOCIOLOGY 204a and b. Sociology and History

Mr. Wolff

*SOCIOLOGY 212a. Sociology of Evil

SOCIOLOGY 213a. Sociology of Fads and Foibles

A seminar devoted to research and conceptualization in the whys and wherefores, the "natural history" of acts labelled "out" as well as "in." Individual and joint projects. Limited enrollment. Admission by consent of instructor. *Mr. Zola*

*SOCIOLOGY 214. Sociology of College Education

Sociology and social psychology of the teaching and learning processes in higher education, with special focus on classroom teaching.

SOCIOLOGY 215b. Ethnomethodology

The study of mundane behavior undertaken under the aegis of the actor's conceptions of reasonableness and practicality, with special emphasis on the function of tacit background presuppositions and the procedures of making common sense.

Mr. Bittner

SOCIOLOGY 218. Seminar in Race and Ethnic Relations

The nature and role of ethnic and racial groupings in various social contexts. Given at Boston College.

Mr. Hughes

*SOCIOLOGY 219b. Seminar on the Family

A comparative analysis of nuclear family patterns utilizing historical and cross-cultural material.

*SOCIOLOGY 220b. Seminar on Violence

*SOCIOLOGY 221b. Seminar on Claims to Knowledge

An examination of both the historical and situated constitution of settings in which people claim to know. Of major concern will be those activities which are called science, but other settings will be considered.

*SOCIOLOGY 222a. Utopia and Utopian Communities

SOCIOLOGY 223a. Seminar in Careers

Given at Boston College.

Mr. Hughes

SOCIOLOGY 224a. Law Enforcement and the Administration of Justice

The study of activities of legal officials and professionals, considered as mechanisms determining the nature and availability of legal remedies for public and private purposes.

Mr. Bittner

SOCIOLOGY 225a and b. Community Sociology

Study of and in a nearby community. Although the course will be largely in the field, it will include a critical appraisal of classic community studies.

Mr. Fellman

* Not to be given in 1969-70.

*SOCIOLOGY 226b. Seminar in Social Psychology

Major problems and issues in the field of social psychology; recent research; contemporary theoretical developments.

SOCIOLOGY 228a. Some Pre-Theoretical Problems of Sociology

Sociological aspects of sociology. Relations between philosophical and methodological problems of sociology. Conditions of constructing sociological theory.

Major background readings for student papers: Maurice Natanson, ed., *Philosophy of the Social Sciences*; Alfred Schutz, *Collected Papers*, Vos. I and II.

Mr. Wolff

SOCIOLOGY 229a. Seminar in Social Psychology of Organizations and Groups

Advanced study of social structure, communication, authority relations, and personal change in organizations, as well as deeper examination of the nature of teaching and learning. The course will stress independent or class research projects and teaching practice, as well as experimentation with new group methods.

Mrs. Kanter

SOCIOLOGY 230–247a and b. Readings in Sociological Literature

- | | |
|--------------------|---------------------|
| 230. Mr. Bittner | 239. Mr. Wallace |
| 231. Mr. Fellman | 240. Mr. Friedman |
| 232. Mr. Hughes | 241. Mr. Wolff |
| 233. Mr. Boime | 242. Mr. Fisher |
| 234. Mr. Schwartz | 243. Mr. Zola |
| 235. Mr. Rosenberg | 244. Mr. Kecskemeti |
| 236. Mr. Slater | 245. Mrs. Kanter |
| 237. Mr. Sobel | 246. Mr. Hicks |
| 238. Mr. Stein | 247. Mr. Sennett |

SOCIOLOGY 255a. Seminar on Urban Policy Planning

Research on problems of urban change and future social policy for cities. The research may involve participation in programs of social action, using the resources of the Cambridge Institute for Policy Study.

Mr. Sennett

SOCIOLOGY 256b. Seminar on Research on Urban History and Development

Projects in this seminar will be oriented around the history of a city or of a group of cities, but speak to the issues of social theory and social structure.

Mr. Sennett

SOCIOLOGY 290. Pro-Seminar

A seminar meeting once a week in which the faculty introduces themselves, their interests and research.

Required of all first year graduate students.

Mr. Schwartz

SOCIOLOGY 300c. Colloquium

The purpose of the colloquium is to give staff members, sociologists from other institutions, and post-M.A. students the opportunity to present current re-

* Not to be given in 1969–70.

search, tentative hypotheses, and more general ideas and positions concerning the study of society. *Staff*

SOCIOLOGY 301. Advanced Field Research

A second year course in methods of field research. Students will be placed as participant observers in a number of different institutions and will be individually supervised in their field work. *Mr. Schwartz*

SOCIOLOGY 400. Dissertation Research Seminar

Open to all advanced students.

Staff

SOCIOLOGY 401–417. Dissertation Research

Independent research for the Ph.D. degree.

401. *Mr. Bittner*

402. *Mr. Fellman*

403. *Mr. Hughes*

404. *Mr. Schwartz*

405. *Mr. Rosenberg*

406. *Mr. Slater*

407. *Mr. Sobel*

408. *Mr. Stein*

409. *Mr. Wallace*

410. *Mr. Friedman*

411. *Mr. Wolff*

412. *Mr. Zola*

413. *Mrs. Kanter*

414. *Mr. Boime*

415. *Mr. Fisher*

416. *Mr. Hicks*

417. *Mr. Sennett*

Theater Arts

Objectives

The Master of Fine Arts Program in Theater Arts is designed both to train and to educate—to develop skilled craftsmen who are also men and women of knowledge and judgment about the art they intend to make their careers. The program combines professionally oriented training in the various theatrical specializations—*Acting*, *Acting-Directing*, *Design-Technical*, *Dramatic Writing* and *Film*—with graduate level study in dramatic literature. It also combines both of these with continual practical experience on and behind the stages of the three Spingold theaters, where the actors act, the directors direct, the designers design and construct, and the playwrights have the opportunity to see their works-in-progress and finished plays performed by casts which include professional actors-in-residence as well as graduate and undergraduate students.

Please note that a degree in the Directing discipline exclusively is not offered by the department.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. In addition, the department requires an audition for applicants in

Acting and Acting-Directing. Audition material may be of the student's choosing, however, the Audition Committee suggests: one serious and one comic selection of not more than five minutes each. (Three regional auditions are held annually as follows: Chicago—early March; San Jose—early April; Brandeis—mid-April.) Submission of a portfolio is required of Design-Technical applicants, and submission of an original script (or other example of creative writing) is required of Dramatic Writing applicants. When applying, students must define their area of concentration, namely: Acting, Acting-Directing, Design-Technical, Dramatic Writing or Film.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the Graduate School by March 1 of their first year in residence.

Faculty

Associate Professor JAMES H. CLAY, *Acting Chairman*; Professors HOWARD BAY, DAVID K. HARDY, **LOUIS KRONENBERGER; Associate Professors MARTIN HALPERN, (*Student Adviser*), JOHN F. MATTHEWS, CHARLES W. MOORE; Assistant Professors MAUREEN HENEGHAN, DOUGLAS R. MADDOX, CAROL PENDERGRAST, PETER M. SANDER; Instructors ANN TOLBERT, NORMAN RIZZI.

Cinematography: Lecturers TIMOTHY ASCH, KENNETH H. GOLDEN, ANDREW J. SILVER, DAVID WESTPHAL.

Artists in Residence: Miss BRONIA STEFAN, Messrs. HOWLAND CHAMBERLAIN, MATT CONLEY, DAVID HOWARD, PETER MACLEAN, MERVYN WILLIAMS.

Degree Requirements

Master of Fine Arts

Residence Requirements. A minimum of eight full-courses or the equivalent in half-courses at the graduate level are required of all candidates.

Program of Study. The program of study varies for each specialty. With the approval of the graduate student adviser, students may add courses offered by other departments. The requirements are given below.

** On Leave, Fall Term, 1969-70.

ACTING AND ACTING-DIRECTING

First Year:

THEATER ARTS 201. Theater Colloquium: I

A department-wide seminar led by the faculty-staff with the addition of guest lecturers from other departments and outside of the university. A constant is the required reading and discussion of the important works of world drama synchronized to the productions and to the seminar leaders' particular fields.

3 hours a week.

Staff

THEATER ARTS 203. Advanced Acting Studies: I

6 hours a week.

Mr. Sander

*THEATER ARTS 205. Shakespearean Acting

3 hours a week.

THEATER ARTS 207. Body Movement for the Actor: I

5 hours a week.

Miss Tolbert

THEATER ARTS 209. Speech Studies for the Actor: I

3 hours a week.

Mrs. Pendergrast

THEATER ARTS 213. Advanced Directing

3 hours a week.

Mr. Moore

Second Year:

THEATER ARTS 202. Theater Colloquium: II

3 hours a week.

Staff

THEATER ARTS 204. Advanced Acting Studies: II

6 hours a week.

Mr. Moore

THEATER ARTS 208. Body Movement for the Actor: II

5 hours a week.

Miss Tolbert

THEATER ARTS 210. Speech Studies for the Actor: II

3 hours a week.

Mrs. Pendergrast

Special Option in Acting-Directing. Students admitted to the special option in Acting-Directing will add *Theater Arts 213, Advanced Directing*, to their first year program. Students who complete this course with distinction are then eligible to substitute the direction of one department production for one of the second year performance requirements described under *Participation in Productions*.

Participation in Productions. Students will normally perform in at least two major productions (Theater I or Theater II) each year, in addition to assignments to the various studio productions in Theater III. Students will also be required to participate on production crews in at least two major departmental productions

* Not to be given in 1969-70.

during their first year in residence and at least one during their second year in residence.

General Examination. Students will be required to pass a general oral examination in the basic materials of dramatic literature, dramatic theory and criticism, and theater history. This examination may be taken at any time during the candidate's residence, and in case of failure may be repeated once. The General Examination, however, must be passed before the end of the fourth semester in residence.

DESIGN-TECHNICAL

First Year:

- | | |
|---|---------------|
| THEATER ARTS 201. Theater Colloquium: I | |
| 3 hours a week. | Staff |
| THEATER ARTS 211. Scenic Design: I | Mr. Rizzi |
| THEATER ARTS 217. Advanced Costume Design and Construction: I | |
| 3 hours a week. | Miss Heneghan |
| THEATER ARTS 219. Lighting Design: I | Mr. Maddox |
| THEATER ARTS 221. Sketching and Rendering | Mr. Rizzi |
| THEATER ARTS 222. Drafting and Stage Techniques | Mr. Dolan |
| THEATER ARTS 225. Production Laboratory: I | Staff |

Second Year:

- | | |
|--|------------------------|
| THEATER ARTS 202. Theater Colloquium: II | |
| 3 hours a week. | Staff |
| THEATER ARTS 212. Scenic Design: II | Mr. Bay |
| THEATER ARTS 218. Advanced Costume Design and Construction: II | |
| 3 hours a week. | Miss Heneghan |
| THEATER ARTS 220. Lighting Design: II | Messrs. Bay and Maddox |
| *THEATER ARTS 223. Scenic Painting | |
| THEATER ARTS 224a. Stage Mechanics | Mr. Dolan |
| THEATER ARTS 224b. Theater Architecture | Mr. Maddox |
| THEATER ARTS 226. Production Laboratory: II | Staff |

Thesis Production. The graduate design thesis is the final problem in either Theater Arts 212 or 218 depending upon the student's major field of interest—set design or costumes. It is the full presentation of projected designs for the scenery, cos-

* Not to be given in 1969-70.

tumes and lighting for a specific play or opera presented in portfolio form. In some cases, a student's main-stage design assignments in his second year of residence may constitute part of the thesis project.

Participation in Productions. All major productions are designed by graduate students. Therefore, a student may expect to be involved in a design capacity on at least three productions during the year. In addition, the student will act as design consultant and technical director of one Theater III studio production each year as well as participating on various production preparatory crews as arranged in conference with the design faculty. Average time expended per week participating in production assignments is fifteen hours.

General Examination. Students will be required to pass a general oral examination in the basic materials of dramatic literature. This examination may be taken at any time during the student's residence, and in case of failure may be repeated once. The General Examination, however, must be passed before the end of the fourth semester in residence.

DRAMATIC WRITING

First Year:

THEATER ARTS 201. Theater Colloquium: I

3 hours a week.

Staff

THEATER ARTS 215. Seminar in Dramatic Writing: I

3 hours a week plus regularly scheduled individual conferences.

Staff

Two elective half-courses which must be approved in advance.

Second Year:

THEATER ARTS 216. Seminar in Dramatic Writing: II

3 hours a week plus regularly scheduled individual conferences.

Staff

Two elective half-courses which must be approved in advance.

Thesis Play. The fourth semester in residence will normally be reserved for the student to concentrate on the completion of his thesis play. This play, a full length work, may or may not result directly from his three previous semesters of study. A committee composed of the thesis adviser and two other faculty members from the department will certify its acceptability as fulfilling the thesis requirement. Plays of particular merit or promise will be given a fully mounted production in Theater II during the academic year following, but only if the author is able to be present during the rehearsals and production.

Participation in Productions. Students are required to participate in the preparation of all Theater III studio productions of the shorter plays or longer works-in-progress which they write for the Seminar in Dramatic Writing. They will also be required to participate, either onstage or offstage (e.g., production crew) in at least two other department productions during the first year in residence and at least one during the first semester of the second year in residence.

Language Requirement. Students will be required to demonstrate reading proficiency in one of the following languages: Greek, Latin, French, German or Italian. With permission of the department's Graduate Student Adviser, another relevant language may be substituted in which a significant body of dramatic literature exists. The language requirement must be met by the end of the third semester of residence.

General Examination. Students will be required to pass a general oral examination designed to test, in depth, their knowledge of the history, literature and criticism of the drama and the theater. This examination may be taken at any time during the student's residence and, in case of failure, may be repeated once. The General Examination, however, must be passed before the end of the fourth semester in residence.

FILM

Program of Study. Each student must take one film production course, one film esthetics course and either a directing, acting, design or writing course each year. The fourth course may be an elective in another department, with the approval of the Graduate Student Adviser.

Thesis Films. Each student will be responsible for writing, directing, producing, photographing and editing two films. One film will be made in the first year, the other in the second year. As a general rule, one of these films will be made by the student as a work of personal expression. The other will normally be made on contract for an outside non-commercial granting agency, such as educational television, a government agency, or a similar sponsor. The final, completed release print of the films will constitute the student's thesis.

Co-Production. With permission from the faculty, students may work together, in pairs or in groups, to produce their thesis films. Thus, if one student is concentrating in Writing and another in Directing they might be permitted to work as a team to fulfill the requirement.

Participation in Productions. Students are required to assist in the shooting of films by their colleagues. They may also be required to produce, direct or write scripts for such film-making projects as the Dretzin Living Biographies or television shows in production on campus or at local television stations.

Language Requirement. Students will be required to demonstrate reading proficiency in one of the following languages: Greek, Latin, French, German or Italian. With permission from the Graduate Student Adviser, another relevant language may be substituted in which a significant body of dramatic or cinematic literature exists. The language requirement must be met by the end of the third semester in residence.

The following courses are available to graduate students as electives.

*THEATER ARTS 115a. Restoration Comedy

* Not to be given in 1969-70.

THEATER ARTS 115b. Modern Comedy

A study of comedy since its rebirth in the late nineteenth century. Particular emphasis on Shaw and Chekhov, and treatment of such playwrights as Wilde, Synge, O'Casey, Pirandello, George Kelly, Giraudoux, Anouilh and T. S. Eliot.

2 classroom hours a week.

Mr. Kronenberger

THEATER ARTS 122a. Modern Drama

The major European dramatists from the mid-nineteenth century through the 1920's, including Ibsen, Strindberg, Chekhov, Synge, Yeats, Shaw, O'Casey and Pirandello.

Mr. Halpern

THEATER ARTS 123b. Contemporary Drama

Continental, British and American dramatists from the 1920's to the present, including Brecht, Lorcs, Giraudoux, Satre, Beckett, Ionesco, Genet, Eliot, Deuren-matt, O'Neill and Albee.

Mr. Halpern

THEATER ARTS 133b. Seminar in the Writing of Drama Criticism

Students will begin by writing newspaper-length reviews, in most cases covering actual productions; and will go on to criticism at a superior-magazine level.

Mr. Kronenberger

THEATER ARTS 140. Introduction to Film

An inquiry into the principles and theory of motion picture and its uses in education, television and the cinema. The course will examine many types of film including documentaries, features, propaganda and advertising with emphasis on film history.

Mr. Hardy

THEATER ARTS 141. Film in Research

A seminar and workshop on the use of film in research projects open to students who wish to use film, tape and photographs to undertake scholarly research on topics in their major field of interest.

Enrollment limited to fifteen students.

Laboratory fee: \$15.00.

Mr. Asch





THEATER ARTS 142a. Film Analysis I

Viewing and discussion of fifteen films to stimulate understanding and appreciation of essentials of the media. An attempt to discover the capacities of film and to suggest the properties that must be investigated in preparation for criticism. Class discussion augmented by visiting lecturers whenever possible. Fifteen short papers required.

Enrollment limited to thirty students.

Laboratory fee: \$7.50.

Mr. Silver

THEATER ARTS 142b. Film Analysis II

Intensive study of three filmmakers (Bergman, Antonioni and Godard) with an eye to developing a concept of cinematic style. An analysis of cinematic technique. An analysis of how the vocabulary of film criticism has developed as the technique has developed.

Prerequisite: Theater Arts 142a and permission of the instructor.

Laboratory Fee: \$7.50.

Mr. Silver

*THEATER ARTS 152b. Comedy

THEATER ARTS 165. Greek and Roman Drama

The plays of Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, Terence and Seneca studied in English translation and in connection with major critical theories from Aristotle to the present.

Mr. Halpern

THEATER ARTS 250. Film Tutorial

Enrollment limited to graduate students only.

Staff

* Not to be given in 1969-70.

Fellowships

Maxwell and Fannie Abbell Teaching Fellowship in Judaic Studies (1954) Created by the late Maxwell Abbell of Chicago, Illinois, to support a teaching fellowship in the field of Judaic Studies.

Viola G. and Michael Addison Fellowship Endowment (1966) Established in honor of becoming a Fellow of the University by Mrs. Michael Addison of New York. The income will provide fellowships for outstanding and deserving students who are doing their advanced work at the University.

Allied Chemical Foundation Fellowship (1964) Established by the Allied Chemical Foundation of New York. This Fellowship will be awarded, at the University's discretion, to an outstanding graduate student, a citizen of the United States or Canada, who is concentrating in the field of Chemistry, and who has demonstrated an aptitude for research in science.

Jeannette and Louis Altschul Fellowship Fund (1946) Established by the late Jeannette and Louis Altschul of New York City to help subsidize the education of gifted students to complete their graduate program.

American Friends of Hebrew University Lown Fellowship Program (1967) An exchange fellowship program through Hebrew University supported by Mr. Philip Lown of Boston, Massachusetts.

Bernard Aronson Teaching Fellowship (1964) Established by Mr. Bernard Aronson of New York, New York, to provide teaching fellowships for graduate students who are concentrating in the sciences.

George Barr Fellowship Endowment (1966) Established by Mr. George Barr of Illinois, to aid a gifted graduate student.

Charles C. Bassine Fellowship (1961) Established in honor of Mr. Charles C. Bassine of New York City by the Trustees of the Long Island Jewish Hospital on the occasion of his induction as a Fellow of the University, to be used to provide fellowship assistance for outstanding graduate students.

Beatrice Foods Company Fellowship (1962) Established through the generosity of the Beatrice Foods Company of Chicago, Illinois, to provide fellowship aid for gifted graduate students.

Louis D. Beaumont Foundation Fellowship (1968) A grant from the Louis D. Beaumont Foundation of Cleveland, Ohio, to provide fellowship support for gifted graduate students.

Beech-Nut Life Savers, Inc. Fellowship (1962) Established to support fellowship assistance for deserving graduate students through a grant from Beech-Nut Life Savers, Inc. of New York City.

David and Paula Ben-Gurion Israeli Fellowship Fund (1967) Established by Brandeis University in honor of their fiftieth wedding anniversary, to enable an Israeli graduate student to spend a year at Brandeis.

Samuel J. Bernstein Fellowship (1967) Established by Leonard Bernstein in honor of the seventy-fifth birthday of his father, Samuel J. Bernstein, to aid a graduate student in Judaic Studies.

Allan I. Bluestein Fellowship (1960) Established by Allan I. Bluestein through the Jacob Bluestein Foundation, Inc. of New York, to assist deserving students in the field of the humanities, particularly in literature, history and language.

Jacob and Rachel Bluestein Memorial Fellowship (1960) Established by Allan I. Bluestein through the Jacob Bluestein Foundation, Inc. of New York, in memory of his parents, to assist gifted students in the field of the humanities.

David Brenner Fellowship Fund (1961) An annual fellowship for a deserving graduate student in the social sciences, preferably from abroad and from a newly developing area or country.

Otto and Mynette Bresky Fellowship Endowment (1962) Established by Mr. and the late Mrs. Otto Bresky of Newton, Massachusetts, the income of which will help to subsidize the graduate education of a gifted and worthy student.

Harry and Esther Brown Fellowship (1963) Established by Mr. and Mrs. Harry Brown of Haverhill, Massachusetts, to provide assistance to a graduate student in the Lown Institute for Contemporary Jewish Studies.

Morris Burg Teaching Fellowship (1957) Established by Mrs. Mildred H. Burg of Brookline, Massachusetts, in memorial tribute to her husband, to support a teaching fellowship in the area of human relations.

Milton H. Callner Fellowship Fund (1966) Established with funds provided under the will of Milton H. Callner, late of Chicago, Illinois, supplemented with matching funds from the Ford Foundation grant, the income to be used for annual fellowships in international affairs or politics.

Campbell Soup Fellowship (1968) Granted by the Campbell Soup Company, Camden, New Jersey, as part of its Aid to Education Program, to help worthy and deserving graduate students.

Sol Cantor Fellowship (1963) Established as a memorial tribute to his mother, Mrs. Pearl Cantor, by Sol Cantor of New York. This fund will provide assistance to needy and promising graduate students.

Joseph and Frances Reitman Caplan Fellowship Endowment (1965) Established in memory of her husband by Frances Reitman Caplan of New York City, the income to be used for the assistance of deserving students and for the promotion of studies that are preparation for a legal career, with special emphasis in the field of international law.

Celanese Fibers Marketing Company Fellowship (1969) To be granted to an outstanding student at the Graduate School of Arts and Sciences.

Celanese Plastics Company Fellowship (1968) Granted by the Celanese Plastics Company to award a fellowship in Political Science to an outstanding student.

Patrick J. Clifford Scholarship and Fellowship Program (1968) Established to honor Patrick J. Clifford, to aid outstanding students.

Aida Coburn Fellowship (1964) Established in honor of his wife by the late Abbot Coburn of Chicago, Illinois. This fellowship will provide partial assistance to a deserving graduate student.

Maxfield J. and Lillian R. Cohen Fellowship Endowment (1965) Established by Mrs. Lillian R. Cohen of Los Angeles, California, in loving tribute to her late beloved husband, Maxfield J. Cohen. The income from this fund will provide assistance to graduate students selected by the University to help them complete advanced training.

Rose and Joseph H. Cohen Fellowship (1962) Established under the terms of a bequest of Joseph H. Cohen, late of New York. The income will provide assistance for students doing their advanced work in Judaic Studies at Brandeis University.

Jack Cohn Memorial Science Fellowships (1962) Established by the Artists Foundation, Inc. of New York City (Mr. Robert Cohn, President), in memory of the late Jack Cohn, to provide three fellowships annually on the basis of merit and need, to students enrolled in the Graduate School in the area of science.

Leon J. Coslov Fellowship (1957) Established by Mr. Leon J. Coslov of Glassport, Pennsylvania, to support a teaching fellowship.

Joan Crawford Fellowship in Theater Arts (1968) Established by friends and colleagues of Miss Crawford in honor of her induction as a Fellow of Brandeis University. To be awarded to an outstanding Theater Arts graduate student.

Dan Danciger Graduate Fellowship Trust Fund (1958) Established through a bequest from the estate of the late Dan Danciger of Fort Worth, Texas, to provide fellowship assistance for graduate students of outstanding academic potential to enable them to pursue academic careers regardless of financial limitations.

Joseph and Sadie Danciger Fellowship Endowments (1967) To be granted to a student in the Philip W. Lown Graduate Center for Contemporary Jewish Studies who is engaged in Jewish communal service and educational work or pursuing research in Contemporary Jewish Studies. Established by a grant from Testamentary Trust under Will of Sadie Danciger, deceased, of Tucson, Arizona.

Frank J. Doft Memorial Fellowship Endowment (1965) Established as a memorial to their son and brother by the Doft Family of Lawrence, Long Island, New York. The income will provide fellowships for deserving graduate students who are concentrating in the life sciences.

Durkee Graduate Fellowship in Biochemistry (1962) A graduate fellowship established by Durkee Famous Foods, Div. SCM Corporation, for support of a deserving graduate student in Biochemistry. This fellowship will provide a grant to the student, payment of tuition and an allowance for each dependent.

Eagle Food Centers Foundation Fellowship (1962) Established through the generosity of the Eagle Food Centers Foundation of Rock Island, Illinois, to subsidize gifted graduate students.

The Esther Eig Fellowship Fund (1967) Established by Mr. Samuel Eig of Gaithersburg, Maryland, to assist graduate students.

Ekco Containers, Inc. Fellowship (1962) Established by Ekco Containers, Inc. of Wheeling, Illinois, to provide fellowship assistance to deserving students.

Max and Frances Elkon Fellowship Endowment (1962) Established by Mr. and Mrs. Max Elkon of New York City. The income to be used to provide fellowship assistance for gifted graduate students.

Meyer Factor Fellowship (1963) Established by Harold E. Factor of Chicago, Illinois, to provide fellowship assistance to gifted and needy graduate students.

Leonard L. Farber Fellowship in Urban and Regional Studies (1967) Established by friends and business associates to promote graduate study in these fields.

Harold L. Fierman Fellowship (1969) Granted by Mrs. Harold L. Fierman of New York City in honor of the induction of her husband as a member of the Board of Trustees of Brandeis University, to be used for graduate study at the Fierman School of Chemistry.

Nathan and Vivian Fink Fellowship (1963) Established by Mr. and Mrs. Nathan Fink of New York, to help subsidize a gifted graduate student in the Lown Institute for Contemporary Jewish Affairs.

Henry F. Fischbach Fellowship Fund (1967) Established by the family of Henry F. Fischbach of New York to honor his seventy-fifth birthday. This endowment trust will support an interchange of graduate students between the Israel Institute of Technology (Technion) and Brandeis University.

Mr. and Mrs. Gus Fisher Fellowship (1966) Established to honor Mr. and Mrs. Gus G. Fisher, Miami Beach, Florida, by offering assistance to a student doing his or her graduate work.

Charlotte and Elliot Fleisher Fellowship Endowment (1966) Established by Mr. and Mrs. Elliot Fleisher of Newton, Massachusetts. The income to be used to provide fellowship grants to aid young men and women of unusual talent or potential to pursue graduate studies within any academic department of the University or within any disciplinary program.

F. Julius Fohs Memorial Tuition Fellowship (1967) Established by the Fohs Foundation of Roseburg, Oregon, to benefit an Israeli student concentrating in the applied sciences.

Harry K. and Emma R. Fox Charitable Foundation Fellowship (1962) Established by the Harry K. and Emma R. Fox Charitable Foundation of Cleveland, Ohio, to support a partial fellowship for a deserving graduate student who, without this assistance, would be unable to complete his advanced studies.

General Foods Fund Fellowship Grant (1961) Established by the General Foods Fund, Inc. of New York City, for fellowship assistance to outstanding graduate students who are concentrating in the area of the life sciences.

Leo Gerstenzang Science Fellowship Endowment Fund (1962) Established by his wife of New York City and Palm Beach, Florida, in memory of her late husband. The income will be used for fellowships to subsidize graduate education and research for deserving graduate students in the field of science.

Gillette Graduate Teaching Fellowships (1967) Created by the Gillette Company of Boston to provide tuition and living stipends for five doctoral candidates in the sciences.

Arnold L. Ginsburg Political Science Fellowship (1968) Granted by Mr. Arnold L. Ginsburg of New York City to aid worthy graduate students concentrating in political science.

Harry and Elka Gitlow Fellowship Endowment in Humanistic Studies (1959) Established by Mr. Albert Gitlow of New York City and members of the family as a memorial tribute.

Albert A. Glassman Fellowship (1962) Established by a bequest of Albert A. Glassman, late of Cleveland, Ohio. This fund will be used for research in the field of medicine or biochemistry.

Pincus Glickman Fellowship in Judaic Studies (1957) An endowment established by Louis J. Glickman of New York City in memory of his father and augmented through gifts of friends and associates, the income to support the teaching of an advanced graduate student.

Beatrice I. and Jacob Goldberg Fellowship Endowment Fund (1962) Established by Mr. and Mrs. Jacob Goldberg of Brookline, Massachusetts, in honor of their fiftieth wedding anniversary. The income from this fund is to be used to support fellowships.

Mollie Goldberg Memorial Fellowship Endowment (1963) Established as a memorial tribute by Isadore J. Goldberg of Chicago, and Milton D. Goldberg of Glencoe, Illinois. The income will be used to provide an annual fellowship for a deserving student in the Florence Heller Graduate School for Advanced Studies in Social Welfare.

Alexander Goldstein Teaching Fellowship in Social Science (1950) The income from this fund will be used to support a teaching fellowship in the field of social science. Established as a memorial to her brother by the late Miss Lutie Goldstein of San Francisco, California.

Edward Goldstein Teaching Fellowship (1954) A grant from Mr. Edward Goldstein of Boston, Massachusetts, to support a teaching fellowship.

Barnett D. Gordon Fellowship (1968) Established by Mr. Barnett D. Gordon of Chestnut Hill, Massachusetts, to help subsidize a deserving graduate student.

Mr. and Mrs. Ben Gordon Fellowship (1963) Established by Mr. and Mrs. Ben Gordon of Harrison, New Jersey, to provide fellowship assistance for deserving graduate students.

The James Gordon Grant for Government Fellowship (1967) Established by the James Gordon Grant for Government of Chicago, Illinois, to aid qualified fellows in this field.

Maurice Gordon Music Fellowship Endowment (1966) Established by Mr. Maurice Gordon, Newton, Massachusetts, to provide fellowships for students with preference given to those majoring in music.

Paul and Hattie Gordon Fellowship in Social Sciences for Graduate Students (1969) Granted by Mr. Paul R. Gordon of Miami Beach, Florida. The income to be used for financial assistance to graduate students in the area of social sciences.

Grace Foundation Fellowship in Chemistry (1967) Established by the Grace Foundation of New York for advanced work in teaching and research in chemistry.

M. Brenn Green Fellowship in Psychology (1967) Established by Mr. M. Brenn Green of New York to offer fellowship assistance to a deserving graduate student working for a Ph.D. in psychology.

Leo Haas and Irene Haas Tuition Fund Fellowship (1967) Established through a bequest of the late Leo Haas of Tucson, Arizona, the income to be used for needy graduate students.

Edward Hano Fellowship Endowment (1958) The income from this fund is to provide supplementary fellowship assistance to gifted graduate students enrolled in the School for Advanced Studies in Social Welfare. A tribute to the late Edward Hano of Granby, Massachusetts, by his wife and members of the family.

Sylvia Harris Fellowships (1967) Established by the Joseph Harris Foundation of New York as a memorial to Sylvia Harris, to offer fellowship aid to deserving graduate students majoring in Theater Arts.

Hartog of California Graduate Fellowship Fund (1961) Established by Hartog of California, to help a graduate student interested in the field of the History of Ideas.

Edwin E. Hokin Teaching Fellowship Endowment (1967) Established by his friends in honor of Edwin E. Hokin of Chicago, Illinois, becoming a Fellow of the University. The income will provide assistance for deserving graduate students.

M. Z. and Hannah Holland Fellowship Endowment (1964) Established by the family and friends of Mr. and Mrs. M. Z. Holland of Chicago, Illinois, to honor their fiftieth wedding anniversary and, also, Mr. Holland's seventy-seventh birthday. The income from this fund will offer assistance to deserving graduate students.

Benjamin S. and Ida F. Hornstein Fellowships (1966) Established by Mr. and Mrs. Benjamin S. Hornstein of New York. The income will provide fellowship assistance for either worthy students who are concentrating in the area of Judaic studies, or to aid in the publication of research studies in the field of Judaic culture and education.

Peter A. Isaacson Fellowship in the Lown Institute for Contemporary Jewish Studies (1963) Established by Mr. Peter A. Isaacson of Lewiston, Maine, for gifted students concentrating in the field of Judaic studies.

The Louis Isenberg Fellowship (1963) Established in the Lown Institute of Contemporary Jewish Studies by Louis Isenberg of Brookline, Massachusetts, in memory of Alice Isenberg. To provide assistance for graduate students who are concentrating in this area.

Max Jacoby Fellowship Endowment in Judaic Studies (1967) Established by Mrs. Belle Jacoby of New York in memorial tribute to her husband, the income to provide fellowships for graduate students in the field of Judaic Studies.

Jewish Community Centers of Chicago Fellowship (1968) Granted by their Board of Directors to offer scholarship aid to a student who is enrolled at the Florence Heller School for Advanced Studies in Social Welfare.

Jewish Community Center of Hunts Point, Bronx, New York Fellowship Endowment (1962) Established by the Trustees of the Jewish Community Center of Hunts Point, New York, so that the income may be used for gifted and worthy graduate students who are concentrating in the history and literature of traditional Judaism. Preference is given to students who come from the metropolitan New York area.

Max Kagan Fellowship (1962) Established by Mr. Max Kagan of Bangor, Maine, in support of a deserving graduate student at the Philip W. Lown Institute of Advanced Judaic Studies.

Charles L. Kangesser Fellowship (1968) Established through a bequest from the estate of Charles L. Kangesser, late of Cleveland, Ohio, to help subsidize a gifted and needy graduate student.

Robert E. and Harry A. Kangesser Fellowship Trust (1951) Established by Messrs. Robert E. and Harry A. Kangesser of Cleveland, Ohio, the income to be used for teaching fellowships.

Kaplan-Turner Fellowship (1965) Established by Charles H. Kaplan and Justin G. Turner of Beverly Hills, California, in memory of Maurice Turner. To assure the availability of funds primarily for the publication needs of the University's library.

Henry Kaufmann Fellowship Endowment in Group and Community Development (1964) Established by the Henry Kaufmann Foundation, Judge Joseph M. Proskauer, Norman S. Goetz, and Samuel Lemberg, all of New York City. The income from this endowed fellowship will support the teaching activities of a faculty member whose doctoral students are specializing in the problems of small groups, neighborhood organizations, and group and community development.

Jack Kirsch Biochemistry Fellowship (1963) Established by the Jane Coffin Childs Memorial Fund for Medical Research to offer fellowship assistance to deserving students in the field of biochemistry.

Richard Kramer Memorial Fellowship (1961) Established in memory of their son, Richard, by Mr. and Mrs. Louis Kramer of Philadelphia, Pennsylvania, to help subsidize a graduate student concentrating in the field of biochemistry.

Lillian Kratter Fellowship (1960) Established in her honor by her husband, Mr. Marvin Kratter of New York City, to be assigned to a female student concentrating in the Graduate School of Music.

Marvin Kratter Fellowship (1960) Established in his honor by his wife, Mrs. Lillian Kratter of New York City, to be assigned to a male student concentrating in the graduate area of biology.

Hyman Kuchai Fellowship (1963) Established by Mr. Hyman Kuchai of Harrison, New York, to provide fellowship assistance for deserving graduate students.

Carl Laemmle Fellowship (1967) Established through a bequest from the estate of Rosabelle L. Bergerman, late of California, daughter of the late Carl Laemmle. To offer fellowship assistance to worthy graduate students.

William Lakritz Fellowship Endowment in Chemistry (1962) Established by the daughters of William Lakritz of New York City and their husbands, Mr. and Mrs. Jack N. Friedman of Glencoe, Illinois, and Dr. and Mrs. Henry Graham of Los Angeles, California, to be used in partial subsidy of graduate students who concentrate in the field of chemistry.

Dr. Meno Lissauer Teaching Fellowship in Natural Science (1957) Set up through a major gift by the late Dr. Meno Lissauer of New York City and the birthday tributes of his colleagues in the Metals and Mining Industry.

P. Lorillard and Company Fellowship (1962) Established through the P. Lorillard and Company of New York City to help subsidize the education of gifted students to complete their graduate program.

Anna R. Lown Memorial Fellowship in Near Eastern and Judaic Studies (1967) Granted by Dr. and Mrs. Bernard Lown and Mr. and Mrs. Leon H. Fischman to support outstanding graduate students concentrating in Near Eastern and Judaic Studies.

Charles Lubin Fellowship (1963) Established at the annual Chicago dinner by a group of his friends to honor Mr. Charles Lubin. This scholarship will provide assistance to a deserving student.

The Dr. Isador Lubin Scholarship and Fellowship Endowment (1966) Established by his family and friends for the assistance of either undergraduate or graduate students needing aid to enter or continue their studies at Brandeis.

Theodore Roosevelt McKeldin Fellowship (1957) Established by friends of former Governor McKeldin as a tribute to him. To be used to subsidize gifted graduate students who plan to concentrate in the areas of political science and government.

Abraham Mendelowitz Fellowship Endowment Fund (1959) Established by the Millinery Workers Health and Welfare Fund in honor of Mr. Abraham Mendelowitz of New York City on the occasion of his sixty-fifth birthday. To subsidize outstanding scholars so that they may continue their studies and medical research in biochemistry and microbiology.

Charles E. Merrill Trust Fellowship (1960) Established by the Charles E. Merrill Trust of Ithaca, New York, to assist graduate students in Judaic Studies.

Morris Messing Fellowship (1964) Established by Mr. Morris Messing of Nutley, New Jersey, to provide fellowship assistance for deserving graduate students.

Joseph Millman Memorial Foundation Fellowship (1964) Established by the Joseph Millman Memorial Foundation of Villas, New Jersey, through Mr. Stanley Rappaport. This fund will provide fellowship assistance for a gifted graduate student. Preference is to be given to applicants who are residents of Cape May County, New Jersey.

Bernard and Marjorie Mitchell Fellowship (1967) Given by Mr. and Mrs. Bernard A. Mitchell of Chicago, Illinois, to aid a worthy graduate student in the field of humanities.

Herman Muehlstein Fellowship Fund (1966) Established by the Herman Muehlstein Foundation to provide graduate study for a student or students preparing for social welfare careers. Preference to be given to students coming from the New York area.

National Biscuit Company Fellowship (1962) A grant from the National Biscuit Company of New York City to provide fellowship support for deserving graduate students.

National Furniture Fellowship in Economics (1967) Established by leaders in the Furniture Industry to support graduate study.

David K. Niles Teaching Fellowship in American Government (1957) To be assigned in memory of a Trustee of the University, who served with distinction as administrative assistant to President Roosevelt and President Truman, for a worthy graduate student who plans for a career in American government service.

Lillian Persky Palais Endowment Fellowship (1960) Established by Mr. and Mrs. Abraham S. Persky of Worcester, Massachusetts, in memory of Mr. Persky's sister, as an endowment whose income in perpetuity is to subsidize the tuition of gifted graduate students so that they may complete their science training.

Arnold Picker Fellowship in the Theater Arts (1968) Established by Arnold M. Picker of New York City to support the graduate program in theater arts.

Frank C. Pierson Fellowship (1966) Established by Mr. Frank C. Pierson of Swarthmore, Pennsylvania, to assist a graduate student majoring in politics.

Albert and Selma F. Pilavin Fellowship Endowment (1966) Established by Mrs. Albert Pilavin of Providence, Rhode Island, to be assigned to the Theater Arts Department, preferably to a graduate student interested in playwriting.

Polaroid-Teger Fellowship (1967) Established by the Polaroid Corporation, Cambridge, Massachusetts, in memory of John Teger, former executive at Polaroid and graduate student at the Florence Heller School, to be awarded annually to a student in social gerontology.

Maurice Pollack Foundation Research Fellowship (1956) Established by the Maurice Pollack Foundation of Quebec, Canada, to enable gifted graduate students to pursue research programs in the field of Judaic Studies.

Prince Macaroni Manufacturing Company and the Cleghorn Folding Box Company Fellowship (1962) Established to provide fellowship assistance to deserving graduate students by the Prince Macaroni Manufacturing Company and its subsidiary, the Cleghorn Folding Box Company, of Lowell, Massachusetts.

Norman S. Rabb Fellowship (1967) Established by an act of the Board of Trustees of Brandeis University as a tribute to Mr. Norman Rabb's service as Chairman of the Board of Trustees for the past six years.

Sidney H. Rabinowitz Memorial Fellowship Endowment (1963) Established by the friends of Sidney H. Rabinowitz in order to perpetuate the spirit of his feeling for his fellow man. The income from this fund will be used to provide fellowship assistance for gifted graduate students in the Humanities.

Minna and Benjamin M. Reeves Fellowship Endowment (1962) Established by Mr. and Mrs. Benjamin M. Reeves of New York City, the income to support the teaching of an advanced graduate student.

Bertha C. Reiss Memorial Fellowship Endowment Fund (1954) Created by the late Dr. Henry Reiss of New York City for the establishment of the Bertha C. Reiss Memorial Fellowship or teaching fellowships. Awards are to be made to students on the basis of their accomplishments in the field of research and/or teaching.

Charles Revson Fellowship Trust (1962) A capital fund established by Charles Revson of New York City, to be assigned to outstanding students who wish to pursue their graduate studies in the areas of biochemistry, chemistry, physics, biophysics, mathematics or psychology.

Benjamin Rosenberg Teaching Fellowship Endowment (1959) Established as a memorial tribute by Mr. and Mrs. Joseph Rosenberg of Fox Point, Wisconsin, to support a teaching fellowship in the field of Polymer Chemistry.

Leo L. Rosenhirsch Memorial Fellowship Fund (1961) Established by Mr. Alfred E. Rosenhirsch and Mrs. Hilda Nussenfeld of New York City to help cover tuition and other expenditures for gifted and needy graduate students.

Edwin M. Rosenthal Teaching Fellowship in the Life Sciences (1961) Established to honor the eighty-second birthday of Edwin A. Rosenthal of Hollywood, Florida, by his daughter, Mrs. Hoke Levin of Detroit, Michigan, to be assigned as a teaching fellowship for a graduate student concentrating in the life sciences.

Julius Rosenwald Teaching Fellowships (1952) A series of teaching fellowships in memory of the distinguished philanthropist, Julius Rosenwald, established by his daughter, the late Mrs. Adele Rosenwald Levy of New York City, to subsidize the development and teaching of gifted graduate students.

Dr. Vera Rubin Fellowship (1960) Established by Dr. Vera Rubin of New York City for a fellowship in the field of anthropology.

Abram L. Sachar Fellowship (1961) Established by B'nai B'rith in honor of the Honorary Chairman of the National Hillel Commission, to underwrite part of the expenses for a gifted student at Brandeis University who joins the Hiatt Institute in Israel to strengthen background in Israeli Studies.

Israel Sachs Teaching Fellowship in Social Relations (1952) Established by his wife and children in his memory.

Dr. Harry Sagansky Fellowship Trust (1963) Established by Dr. Harry Sagansky of Brookline, Massachusetts, to be used for subsidies to graduate students so that they may be helped in the completion of their specialized training.

Samuel and Rae Salny Fellowship Endowment in Social Relations (1952) Established by Mrs. Samuel M. Salny and the late Mr. Salny of Boston, Massachusetts, to support a fellowship in the field of social relations.

Shirley and Maurice Saltzman Fellowship Endowment Fund (1961) Established by Mr. and Mrs. Maurice Saltzman of Cleveland, Ohio, so that the income may be assigned to gifted and advanced students who are concentrating in the humanities.

Shirley and Maurice Saltzman Fellowship Endowment in the Fine Arts (1966) Established by Mr. and Mrs. Maurice Saltzman of Cleveland, Ohio, so that the income may be assigned to gifted and advanced students who are concentrating in the Fine Arts.

Honorable Howard J. Samuels Fellowship (1968) Granted by the Honorable Howard J. Samuels, former Undersecretary of Commerce, to offer fellowship assistance to worthy graduate students.

Samuel D. and Goldie Saxe Fellowship in Science (1955) Established by Mrs. Goldie Saxe of Brookline, Massachusetts, and children, to support research and teacher training in the field of science.

Edward A. Schaffer Teaching Fellowship Endowment (1959) Established by his wife in memorial tribute, to support a teaching fellowship in the field of humanistic and social sciences.

Alice Boughton Schaffner Memorial Fellowship Endowment (1961) Established under the terms of the will of the late Alice Boughton Schaffner by her designators, Winifred Raushenbush and James Rorty. The income from this fund will be used to provide fellowship support for outstanding women students from racially underprivileged families.

Rabbi Solomon Scheinfeld Fellowship Endowment (1959) Established by the Sylvia and Aaron Scheinfeld Foundation of Chicago, Illinois, as a memorial tribute to Mr. Scheinfeld's distinguished father. The income to be used for fellowship assistance to gifted graduate students, preferably from Wisconsin, in the School for Advanced Studies in Social Welfare.

Schneider Foundation Fellowship in Theater Arts (1968) Granted in honor of Miss Joan Crawford by Mr. Abraham Schneider, New York City. To offer financial assistance to a worthy student in the Graduate School of Theater Arts.

Joseph Schumer Fellowship Endowment Fund (1966) Established by a bequest in the will of Joseph Schumer, late of New York City, the income of which will provide Joseph Schumer Fellowships for needy and gifted students in music.

Ida Hillson Schwartz and Elias Edward Schwartz Memorial Fellowship Endowment Fund (1949) Established as a memorial to Ida Hillson Schwartz of Winter Hill, Massachusetts, by her family. The Fund has been augmented by a perpetuity as an exchange fellowship, either to bring gifted young people from Israel to Brandeis or to send Brandeis University students to the Hebrew University in Israel.

Morris Sepinuck Teaching Fellowship (1954) Created as a memorial to Morris Sepinuck by his children, Messrs. Samuel and Nathan Sepinuck, and Mrs. George Sorkin of Boston, Massachusetts.

Fannie and Simon Shamroth Fellowship Endowment (1963) Established by the children of Fannie and Simon Shamroth of Lynn, Massachusetts. The income from this fund will be used to help subsidize deserving graduate students.

Leonard Shanhouse Fellowship (1963) Established by Mr. Leonard Shanhouse of Magnolia, Arkansas, to provide fellowship assistance for deserving graduate students.

Robert Shapiro Fellowship in Theater Arts (1967) Established by the bequest of the late Robert Shapiro of New York, to be awarded annually for the next four years to graduate students in Theater Arts.

Isaiah Leo Sharfman Teaching Fellowship Endowment (1956) Established by Mr. and Mrs. Samuel R. Rosenthal of Highland Park, Illinois, in tribute to Professor Sharfman of the University of Michigan, with preference given to teaching fellows in the area of economics.

Bernard Shivek Memorial Fellowship Endowment (1967) Established in loving memory by the Shivek Family of Chestnut Hill, Massachusetts, the income to offer fellowship assistance to graduate students.

Mr. and Mrs. Abraham Smith Memorial Fellowship (1962) Established by Mr. Samuel Smith of Allentown, Pennsylvania, in memory of his parents, Mr. and Mrs. Abraham Smith, to provide fellowship assistance for worthy graduate students.

Charles E. Smith Family Fellowships (1969) Established by Mr. Charles E. Smith of Washington, D. C., the income of which will be granted to outstanding and needy graduate students.

Jack and Irene Hayes Solomon Foundation Fellowship Endowment (1962) Established by the Jack and Irene Hayes Solomon Foundation of New York City, the income to be used to support fellowships for gifted graduate students.

Mr. and Mrs. Harry Stadler Teaching Fellowship in Music (1956) Established by Mr. and Mrs. Harry Stadler of Hollywood, Florida, in memory of their loving mothers, Sarah Stadler and Etta Berger, to support a teaching fellowship in the field of music.

Joseph F. Stein Foundation, Inc. Fellowship (1959) Established by the Joseph F. Stein Foundation, Inc. through Mr. Joseph F. Stein of New York City, for fellowship study in the School of Advanced Studies in Social Welfare.

Sunshine Biscuits, Incorporated Fellowship (1962) Established through a grant from Sunshine Biscuits, Incorporated of Long Island City, New York, to provide fellowship assistance for deserving graduate students.

Gertrude W. and Edward M. Swartz Fellowship Endowment Fund (1954) Established by Mr. and Mrs. Edward M. Swartz of Brookline, Massachusetts, to support a teaching or research fellowship.

Syroco-Holstein Foundation, Inc. Fellowship (1966) Established by the Syroco-Holstein Foundation, Inc. of Syracuse, New York, to provide fellowship assistance to worthy graduate students.

David Tannenbaum Teaching Fellowship in Legal Institutions (1958) An endowment to honor the memory of David Tannenbaum of Beverly Hills, California, established by his friends and admirers.

Ben Tobin Teaching Fellowship (1955) Established by Mr. Ben Tobin of Hollywood, Florida, to support a fellowship in the field of science.

Universal Match Foundation Fellowship (1957) To be awarded to a graduate student, or students, who are concentrating in the fields of physics, chemistry, biochemistry or microbiology. Set up by the Universal Match Foundation of St. Louis, Missouri.

Edyth Usen Fellowship Endowment (1967) Established by Mr. and Mrs. Irving Usen of Newton, Massachusetts. The income will be assigned as a fellowship to a gifted and needy graduate student.

Harry Uviller Fellowship (1962) Established by friends and associates of Harry Uviller, in appreciation for his many years of distinguished service as an impartial arbitrator, and his many other contributions to the advancement of the needle trades industry and the preservation of industrial peace in New York. This fellowship will provide assistance to deserving graduate students.

Rose Mary Waga Fellowship Endowment (1964) Established by Mr. Peter E. Klein of Cleveland, Ohio, as Trustee to provide, in perpetuity, assistance to talented and needy students in the Graduate School.

Leo Wasserman Graduate Fellowship (1962) Established through a gift from the Leo Wasserman Foundation as a memorial to Leo Wasserman, late of Brookline, Massachusetts, the income to be devoted to the aid of graduate students in the humanities, the social sciences, and the field of social work.

Herman Weisselberg Memorial Fellowship (1957) Established as a memorial tribute by Mr. Arnold Weisselberg of Long Island City, New York, to support a fellowship.

Helen Hay Whitney Research Fellowship (1963) Established by the Helen Hay Whitney Foundation of New York to promote post-doctoral research.

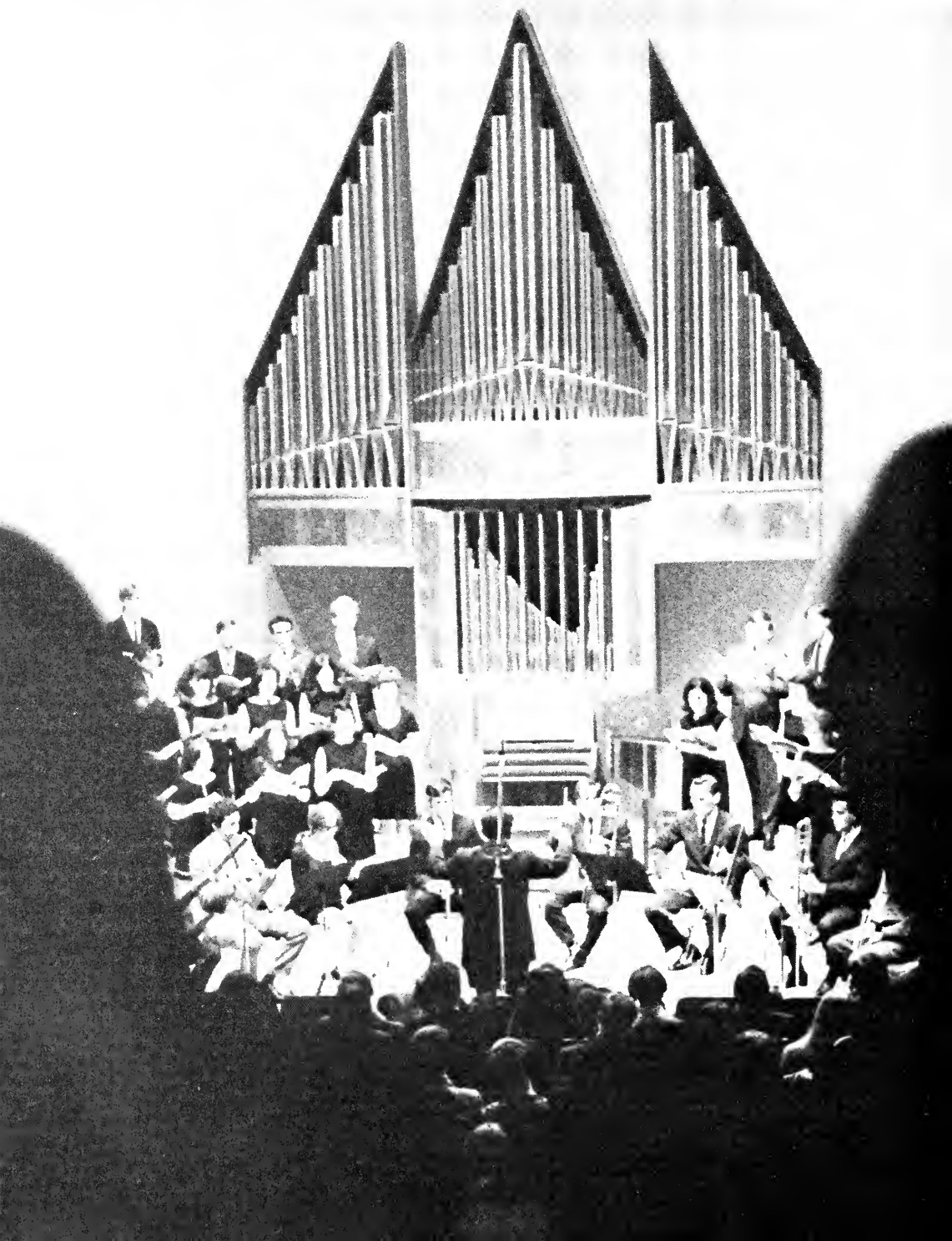
Carrie Wiener Teaching Fellowship (1950) The income from this fund is to be used for a fellowship, established by Mr. Herman Wiener of Toledo, Ohio, in the name of his wife.

Clement Wilenchick Fellowship Fund in the Theater Arts (1966) Established under the terms of the will of Maria Wilenchick, late of New York, in memory of her son, Clement Wilenchick, who was a painter and an actor.

Leon G. Winkelman Fellowship Endowment Fund (1959) Established by the Leon G. and Josephine Winkelman Foundation of Detroit, Michigan, as a memorial tribute to Leon G. Winkelman, to subsidize a graduate fellowship in the field of gerontology.

The Leila G. Winton Music Composition Fellowship (1969) Established by Mr. Harold M. Winton of New York City. To be awarded to a graduating student, outstanding in the field of music composition, who plans to continue the study of music composition at the graduate level.

Paul Ziffren Fellowship (1962) Established by Mr. Paul Ziffren of Los Angeles, California, to provide fellowship assistance for worthy and deserving graduate students concentrating in the social sciences.



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Carl I. Belz	<i>Assistant Professor of Fine Arts</i>
Ph.D., Princeton University	
Saul Benison	<i>Adjunct Professor of History</i>
Ph.D., Columbia University	
Sacvan Bercovitch	<i>Associate Professor of English</i>
Ph.D., Claremont Graduate School	
Arthur Berger	<i>Fine Professor of Music</i>
M.A., Harvard University	

* On Leave, 1969-70.

- Robert W. Berger
Ph.D., Harvard University
Assistant Professor of Fine Arts
- Stephan Berko
Ph.D., University of Virginia
Professor of Physics
- David Sandler Berkowitz
Ph.D., Harvard University
Professor of History
- Joseph S. Berliner
Ph.D., Harvard University
Silver Professor of Economics
- Gerald S. Bernstein
Ph.D., University of Pennsylvania
Assistant Professor of Fine Arts
- Rudolph Binion
Ph.D., Columbia University
Professor of Modern European History
- Egon Bittner
Ph.D., University of California, Los Angeles
Coplan Professor in the Social Sciences
- Eugene C. Black
Ph.D., Harvard University
Professor of History
- Charles R. Blyth, Jr.
Ph.D., Harvard University
Assistant Professor of English
- Jerome P. Boime
M.A., University of Chicago
Assistant Professor of Sociology
- Ludovico Borgo
Ph.D., Harvard University
Associate Professor of Fine Arts
- Aldridge K. Bousfield
Ph.D., Massachusetts Institute of Technology
Assistant Professor of Mathematics
- Martin Boykan
M.M., Yale Music School
Associate Professor of Music
- Paul H. Brainard
Ph.D., University of Gottingen
Associate Professor of Music
- Naftali C. Brandwein
Ph.D., Jewish Theological Seminary of America
Cohen Professor of Modern Hebrew Literature
- Leo Bronstein
Ph.D., University of Paris, Sorbonne
Professor Emeritus of Fine Arts
- Edgar H. Brown, Jr.
Ph.D., Massachusetts Institute of Technology
Professor of Mathematics
- Paul L. Brown
M.F.A., Yale School of Art and Architecture
Assistant Professor of Fine Arts
- David A. Buchsbaum
Ph.D., Columbia University
Professor of Mathematics
- Tamar Burak
Ph.D., Hebrew University, Jerusalem
Instructor in Mathematics
- Richard M. Burian
B.A., Reed College
Assistant Professor of Philosophy
- Norman F. Cantor
Ph.D., Princeton University
Leff Professor of History
- Cynthia B. Caples
M.A., Harvard University
Lecturer in German
- Samuel A. Cherniak
M.A., Cornell University
Lecturer in French

*James W. Child	<i>Assistant Professor of Philosophy</i>
Ph.D., Indiana University	
*Max Chrétien	<i>Associate Professor of Physics</i>
Ph.D., University of Basel	
James H. Clay	<i>Associate Professor of Theater Arts</i>
Ph.D., University of Illinois	
Arlene L. Clift	<i>Assistant Professor of English</i>
M.A., Harvard University	
Helen Codere	<i>Professor of Anthropology</i>
Ph.D., Columbia University	
Edward Cohen	<i>Assistant Professor of Music</i>
M.A., University of California, Berkeley	
H. Daniel Cohen	<i>Assistant Professor of Physics</i>
Ph.D., Stanford University	
Jacob Cohen	<i>Lecturer in American Civilization and Anthropology</i>
M.A., Yale University	
Jacques Cohen	<i>Assistant Professor of Physics</i>
Ph.D., University of Illinois	
Saul G. Cohen	<i>Breskin Professor of Chemistry</i>
Ph.D., Harvard University	
**Andrée M. Collard	<i>Associate Professor of Spanish</i>
Ph.D., Harvard University	
Russell Connor	<i>Lecturer in Fine Arts</i>
M.F.A., Yale University	
**George L. Cowgill	<i>Associate Professor of Anthropology</i>
Ph.D., Harvard University	
Harvey G. Cox	<i>Danielsen Visiting Professor of Philosophy and</i>
Ph.D., Harvard University	<i>Christian Thought</i>
	<i>(Harvard Divinity School)</i>
James V. Cunningham	<i>Prosswimmer Professor of</i>
Ph.D., Stanford University	<i>English and Humanities</i>
Margaret Dalton	<i>Assistant Professor of Russian</i>
Ph.D., Harvard University	
David M. Dawson	<i>Adjunct Assistant Professor of Biochemistry</i>
M.D., University of Michigan Medical School	
John Putnam Demos	<i>Assistant Professor of History</i>
M.A., University of California, Berkeley	
Stanley Deser	<i>Professor of Physics</i>
Ph.D., Harvard University	
F. Trenery Dolbear, Jr.	<i>Associate Professor of Economics</i>
Ph.D., Yale University	
Paul B. Dorain	<i>Professor of Chemistry</i>
Ph.D., Indiana University	
Emily P. Dudek	<i>Adjunct Assistant Professor of Chemistry</i>
Ph.D., Radcliffe College	
James E. Duffy	<i>Professor of Romance Literature and History</i>
Ph.D., Harvard University	

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

- Arthur Edelstein *Visiting Assistant Professor of English*
A.M., Stanford University
- Harold E. Edgerton *Visiting Professor of Underwater Archaeology*
D.Sc., Massachusetts Institute of Technology
(*Massachusetts Institute of Technology*)
- Stanley M. Elkins *Visiting Lecturer in History*
Ph.D., Columbia University
- **Edward Engelberg *Professor of Comparative Literature*
Ph.D., University of Wisconsin
- **Herman T. Epstein *Professor of Biophysics*
Ph.D., University of Michigan
- James C. Erskine, Jr. *Instructor in Physics*
Ph.D., Western Reserve University
- Robert Evans, Jr. *Associate Professor of Economics*
Ph.D., University of Chicago
- Gertrude Ezorsky *Visiting Associate Professor of Philosophy*
Ph.D., New York University
- Gerald D. Fasman *Professor of Biochemistry*
Ph.D., California Institute of Technology
(*Established Investigator of the American Heart Association*)
- Alan S. Fedrick *Assistant Professor of French*
Ph.D., University of Manchester
- Gordon A. Fellman *Assistant Professor of Sociology*
Ph.D., Harvard University
- Jack Felman *Assistant Professor in the History of Ideas*
B.S., City College
- David Hackett Fischer *Associate Professor of History*
Ph.D., Johns Hopkins University
- Michael Fishbane *Instructor in Hebrew and Biblical Studies*
M.A., Brandeis University
- Charles S. Fisher *Assistant Professor of Sociology*
Ph.D., University of California, Berkeley
- Emanuel Flumere *Associate Professor of Physical Education*
M.Ed., Boston University
- Madeline J. Foley *Lecturer in Music and Artist-in-Residence*
M.S., Juilliard Graduate School
- John R. Frederiksen *Assistant Professor of Psychology*
Ph.D., Princeton University
- David M. Freifelder *Associate Professor of Biochemistry*
Ph.D., University of Chicago
- Eberhard Frey *Assistant Professor of German*
Ph.D., Cornell University
- Neil L. Friedman *Assistant Professor of Sociology*
Ph.D., Harvard University
- Lawrence H. Fuchs *Professor of American Civilization*
Ph.D., Harvard University
- ***Chandler M. Fulton *Associate Professor of Biology*
Ph.D., Rockefeller Institute

** On Leave, Fall Term, 1969-70.

*** On Leave, Spring Term, 1969-70.

- Joachim E. Gaehde *Professor of Fine Arts*
 Ph.D., New York University
- *** Stephen J. Gendzier *Associate Professor of French*
 Ph.D., Columbia University
- Edward N. Gershfield *Visiting Lecturer in Talmud*
 Ph.D., Oxford University
(Jewish Theological Seminary of America)
- Martin Gibbs *Professor of Biology*
 Ph.D., University of Illinois
- Donald B. Giddon *Adjunct Lecturer in Psychology*
 Ph.D., Brandeis University
- Ira H. Gilbert *Assistant Professor of Astrophysics*
 Ph.D., Harvard University
- David H. Gillespie *Assistant Professor of Biology*
 Ph.D., University of Illinois
- Nahum Norbert Glatzer *Tuch Professor of Jewish History*
 Ph.D., University of Frankfurt
- Kenneth H. Golden *Lecturer in Cinematography*
 M.A., New York University
- Sidney Golden *Fischbach Professor of Chemistry*
 Ph.D., Harvard University
- Maynard Goldman *Consultant in Music*
 B.Mus., Boston University
- Emanuel S. Goldsmith *Instructor in Hebrew and Yiddish Literature*
 M.H.L., Jewish Theological Seminary
- William M. Goldsmith *Adjunct Assistant Professor of American*
 Ph.D., Columbia University *Civilization and Politics*
- Jack S. Goldstein *Professor of Astrophysics*
 Ph.D., Cornell University
- ** Cyrus H. Gordon *Foster Professor of Mediterranean Studies*
 Ph.D., University of Pennsylvania
- Robert S. Greenberg *Assistant Professor of Philosophy*
 Ph.D., University of Chicago
- Peter Grippe *Avnet Professor of Sculpture*
- Marcus T. Grisaru *Associate Professor of Physics*
 Ph.D., Princeton University
- Sarah Groll *Visiting Lecturer in Egyptology*
 Ph.D., Hebrew University, Jerusalem
(Hebrew University)
- *** Eugene P. Gross *Avnet Professor of Physics*
 Ph.D., Princeton University
- Allen R. Grossman *Associate Professor of English*
 Ph.D., Brandeis University
- Lawrence Grossman *Professor of Biochemistry*
 Ph.D., University of Southern California
(Career Award, National Institutes of Health)

** On Leave, Fall Term, 1969-70.

*** On Leave, Spring Term, 1969-70.

- Ernest Grunwald *Professor of Chemistry*
Ph.D., University of California, Los Angeles
- Benjamin Halpern *Professor of Near Eastern Studies*
Ph.D., Harvard University
- Martin Halpern *Associate Professor of Theater Arts*
Ph.D., Harvard University
- *Eugenia Hanfmann *Professor of Psychology*
Ph.D., University of Jena
- David A. Hanson *Lecturer in Russian*
A.B., Harvard University
- David Keith Hardy *Professor of Theater Arts*
B.A., Trinity College, Dublin
- Victor Harris *Professor of English*
Ph.D., University of Chicago
- Robert W. Hartman *Assistant Professor of Economics*
Ph.D., Harvard University
- Elsie Hasskarl *Instructor in Biology*
B.A., Lake Forest College
- Elie Hayon *Adjunct Associate Professor of Chemistry*
Ph.D., King's College, Durham University
- John F. Heckman *Assistant Professor of French and Comparative Literature*
Ph.D., Cornell University
- Peter Heller *Associate Professor of Physics*
Ph.D., Harvard University
- Michael J. Henchman *Associate Professor of Chemistry*
Ph.D., Yale University
- ***James B. Hendrickson *Professor of Chemistry*
Ph.D., Harvard University
- Maureen Heneghan *Assistant Professor of Costume Design*
- Maurice Hershenson *Associate Professor of Psychology*
Ph.D., Yale University
- Carl Herz *Visiting Professor of Mathematics*
Ph.D., Princeton University
(Cornell University)
- Calvin Hicks *Visiting Lecturer in Sociology*
B.A., Drake University
- Donald Hindley *Associate Professor of Politics*
Ph.D., Australian National University
- Milton Hindus *Professor of English*
M.S., City College of New York
- Larry Hirschhorn *Instructor in Economics*
A.B., Brandeis University
- Harrison Hoblitzelle *Lecturer in English*
Ph.D., Columbia University
- Christoph Hohenemser *Assistant Professor of Physics*
Ph.D., Washington University
- Thomas C. Hollocher, Jr. *Associate Professor of Biochemistry*
Ph.D., University of Rochester

* On Leave, 1969-70.

*** On Leave, Spring Term, 1969-70.

- Benjamin B. Hoover *Professor of English*
Ph.D., University of California, Berkeley
- **David A. Horr** *Assistant Professor of Anthropology*
Ph.D., Harvard University
- Laura Hourtienne *Assistant Professor of German*
Ph.D., Bryn Mawr College
- Helmut K. A. Hücke *Visiting Associate Professor of Music*
Ph.D., University of Freiburg
(University of Frankfurt)
- Clifford C. Huffman, Jr. *Instructor in English*
M.A., Clare College, Cambridge University
- Everett C. Hughes *Professor Emeritus of Sociology*
Ph.D., University of Chicago
- John M. Hughes *Associate Professor of Physical Education*
Ed.M., Framingham State College
- Ivor Hunt *Visiting Associate Professor of Philosophy*
M.A., Oxford University
(Sussex University)
- Robert C. Hunt *Associate Professor of Anthropology*
Ph.D., Northwestern University
- Gerald N. Izenberg *Assistant Professor in the History of Ideas*
A.M., Harvard University
- David Jacobson *Assistant Professor of Anthropology*
Ph.D., University of Rochester
- William P. Jencks *Rosenstiel Professor of Biochemistry*
M.D., Harvard Medical School
- Peter C. Jordan *Assistant Professor of Chemistry*
Ph.D., Yale University
- Lisel K. Judge *Associate Professor of Physical Education*
B.S., Sargent College, Boston University
- Julian N. Kanfer *Adjunct Associate Professor of Biochemistry*
Ph.D., George Washington University
- Rosabeth Moss Kanter *Assistant Professor of Sociology*
Ph.D., University of Michigan
- *David Kaplan** *Associate Professor of Anthropology*
Ph.D., University of Michigan
- Richard Katz *Assistant Professor of Psychology*
Ph.D., Harvard University
- Paul Kecskemeti *Visiting Professor of Sociology*
Ph.D., University of Budapest
- Morton Keller *Proskauer Professor of Legal Institutions*
Ph.D., Harvard University
- George A. Kelly *Associate Professor of Politics*
Ph.D., Harvard University
- Albert Kelner *Burg Professor of Microbiology*
Ph.D., University of Pennsylvania
- Samuel Jay Keyser *Associate Professor of English*
Ph.D., Yale University

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

- Lawrence E. Kirsch
Ph.D., Rutgers University
Assistant Professor of Physics
- *James B. Klee
Ph.D., University of Michigan
Associate Professor of Psychology
- Attila O. Klein
Ph.D., Indiana University
Associate Professor of Biology
- Karen Wilk Klein
Ph.D., Columbia University
Assistant Professor of English
- Robert Lincoln Koff
B.Mus., Oberlin College
Associate Professor of Music and Artist-in-Residence
- **Louis Kronenberger
Visiting Professor of English and Theater Arts
- Kenneth Kustin
Ph.D., University of Minnesota
Associate Professor of Chemistry
- Ernest R. Lacheman
Ph.D., Harvard University
Visiting Professor of Cuneiform Studies
(Wellesley College)
- Joseph C. Landis
Ph.D., New York University
Visiting Professor of Yiddish Literature
(on the Jacob Berg Foundation)
- Frederic C. Lane
Ph.D., Harvard University
Visiting Professor of History
- Robert V. Lange
Ph.D., Harvard University
Assistant Professor of Physics
- *Walter V. Laqueur
Professor of History of Ideas and Politics
- Robert J. Larner
Ph.D., University of Wisconsin
Assistant Professor of Economics
- Hubert P. LeBlanc, Jr.
A.B., Brandeis University
Lecturer in Physical Education
- Susan Leeman
Ph.D., Radcliffe College
Research Assistant Professor of Biochemistry
- *Louis Lefebvre
Ph.D., Massachusetts Institute of Technology
Hecht Professor of International Economics
- Eugene Lehner
M.M., Budapest Conservatory
Consultant in Chamber Music
- **Alan Lechuk
Ph.D., Stanford University
Assistant Professor of English
- *Max Lerner
Ph.D., Robert Brookings Graduate School
Richter Professor of American Civilization and Institutions
- Martin A. Levin
Ph.D., Harvard University
Assistant Professor of Politics
- ***Harold I. Levine
Ph.D., University of Chicago
Professor of Mathematics
- Jerome P. Levine
Ph.D., Princeton University
Professor of Mathematics
- Lawrence Levine
Sc.D., Johns Hopkins University
Professor of Biochemistry
(American Cancer Society Professorship)

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

*** On Leave, Spring Term, 1969-70.

Norman E. Levine	<i>Assistant Professor of Physical Education</i>
B.S., Bates College	
*Alan L. Levitan	<i>Assistant Professor of English</i>
Ph.D., Princeton University	
Leonard W. Levy	<i>Warren Professor of American</i>
Ph.D., Columbia University	<i>Constitutional Studies</i>
Denah L. Lida	<i>Professor of Spanish</i>
Ph.D., University of Mexico	
David I. Lieberman	<i>Assistant Professor of Mathematics</i>
Ph.D., Massachusetts Institute of Technology	
Henry Linschitz	<i>Rubenstein Professor of Chemistry</i>
Ph.D., Duke University	
Lawrence Lipson	<i>Lecturer in French</i>
M.Phil., Yale University	
Edgar Lipworth	<i>Professor of Physics</i>
Ph.D., Columbia University	
Robert J. Littman	<i>Instructor in Classics</i>
B.Litt., Oxford University	
Lawrence Lockwood	<i>Lecturer in Spanish</i>
B.A., Dartmouth College	
*Elaine P. Loeffler	<i>Assistant Professor of Fine Arts</i>
B.A., Smith College	
Harvey S. London	<i>Assistant Professor of Psychology</i>
Ph.D., Columbia University	
Farnsworth Loomis	<i>Rosenfield Professor of Biochemistry</i>
M.D., Harvard University	
Adalberto Lopez	<i>Visiting Lecturer in History</i>
A.B., Harvard College	
John M. Lowenstein	<i>Professor of Biochemistry</i>
Ph.D., London University	
Heinz M. Lubasz	<i>Associate Professor in the History of Ideas</i>
Ph.D., Yale University	
***Alvin A. Lucier	<i>Assistant Professor of Music and Director</i>
M.F.A., Brandeis University	<i>of the University Chorus</i>
Joseph S. Lukinsky	<i>Assistant Professor and Director of Jewish Education</i>
Ed.D., Harvard University	
Alasdair MacIntyre	<i>Visiting Professor in the History of Ideas</i>
M.A., University of Manchester	<i>and Philosophy</i>
	<i>(University of Essex, England)</i>
Roy C. Macridis	<i>Jaffe Professor of Politics</i>
Ph.D., Harvard University	
Douglas R. Maddox	<i>Assistant Professor of Theater Arts</i>
M.F.A., Carnegie Institute of Technology	
Robert J. Maeda	<i>Instructor in Fine Arts</i>
Ph.D., Harvard University	
Jean-Claude R. Maitre	<i>Lecturer in French</i>
Agrégé de L'Université de Rennes	

* On Leave, 1969-70.

*** On Leave, Spring Term, 1969-70.

- Farahe Maloof *Adjunct Associate Professor of Biochemistry*
M.D., Tufts College Medical School
- *Robert A. Manners *Professor of Anthropology*
Ph.D., Columbia University
- Leo Marx *Ziskind Visiting Professor of Sociology*
Ph.D., Harvard University
(Amherst College)
- *Abraham H. Maslow *Levin Professor of Psychology*
Ph.D., University of Wisconsin
- David M. Massie *Lecturer in Philosophy*
B.A., Yale University
- William H. Matheson *Associate Professor of French*
Ph.D., University of Michigan
- Teruhisa Matsusaka *Professor of Mathematics*
D.Sc., Kyoto University
- John F. Matthews *Associate Professor of Theater Arts*
A.B., University of Cincinnati
- *Alan L. Mayer *Associate Professor of Mathematics*
Ph.D., Princeton University
- Michael B. Mazur *Assistant Professor of Fine Arts*
M.F.A., Yale University
- *Marvin Meyers *Truman Professor of American Civilization*
Ph.D., Columbia University
- Allen P. Mills, Jr. *Assistant Professor of Physics*
Ph.D., Brandeis University
- **Paul H. Monsky *Associate Professor of Mathematics*
Ph.D., University of Chicago
- Charles W. Moore *Associate Professor of Theater Arts*
M.F.A., Yale University
- Ricardo B. Morant *Fierman Professor of Psychology*
Ph.D., Clark University
- Ruth Schachter Morgenthau *Avnet Professor of Black African Studies*
Ph.D., Oxford University, England
- E. Craig Morris *Assistant Professor of Anthropology*
Ph.D., University of Chicago
- Edith C. Moss *Lecturer in Spanish*
M.A., Harvard University
- Thomas B. Mulholland *Visiting Lecturer in Psychology*
Ph.D., Clark University
- William T. Murakami *Associate Professor of Biochemistry*
Ph.D., University of Southern California
- Pauli Murray *Visiting Professor of American Civilization and Politics*
J.S.D., Yale Law School
- *Howard Nemerov *Professor of English*
B.A., Harvard University
- Gordon D. Newby *Assistant Professor of Mediterranean Studies*
Ph.D., Brandeis University

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

Eric A. Nordlinger	<i>Assistant Professor of Politics</i>
Ph.D., Princeton University	
Herbert Oberlander	<i>Assistant Professor of Biology</i>
Ph.D., Western Reserve University	
*Thomas O'Brien	<i>Assistant Professor of Economics</i>
M.A., Cornell University	
Irving Olin	<i>Associate Professor of Physical Education</i>
M.A., Rutgers University	
Gjerding Olsen	<i>Assistant Professor of Biology</i>
Ph.D., Harvard University	
Richard J. Onorato	<i>Assistant Professor of English</i>
Ph.D., Harvard University	
Richard S. Palais	<i>Professor of Mathematics</i>
Ph.D., Harvard University	
Judith P. Pasqualucci	<i>Instructor in Physical Education</i>
M.A., Michigan State University	
Carol Pendergrast	<i>Assistant Professor of Voice and Speech</i>
B.A., San Jose State College	
Hugh N. Pendleton, III	<i>Associate Professor of Physics</i>
Ph.D., Carnegie Institute of Technology	
Bradford Perkins	<i>Visiting Lecturer in History</i>
Ph.D., Harvard University	
(University of Michigan)	
Frances S. Perkins	<i>Lecturer in Psychology</i>
M.Ed., Tufts University	
*David M. Perlmutter	<i>Assistant Professor of English</i>
Ph.D., Massachusetts Institute of Technology	
Robert P. Perrin	<i>Assistant Professor of Physics</i>
Ph.D., Massachusetts Institute of Technology	
Mordeca J. Pollock	<i>Lecturer in French</i>
A.M., City College of New York	
Sir Karl R. Popper	<i>Ziskind Visiting Professor of Philosophy</i>
Ph.D., University of Vienna	<i>and History of Ideas</i>
**Robert O. Preyer	<i>Professor of English</i>
Ph.D., Columbia University	
***Philip Rahv	<i>Professor of English</i>
Alan T. Ramsey	<i>Assistant Professor of Physics</i>
Ph.D., University of Wisconsin	
Harry Rand	<i>Adjunct Professor of Clinical Psychology</i>
M.D., Middlesex University Medical School	
Esther E. Rawidowicz	<i>Assistant Professor Emeritus of German</i>
Ph.D., University of Berlin	
O. Ralph Raymond, II	<i>Assistant Professor of Politics</i>
M.A., Harvard University	
Ralph Reid	<i>Instructor in Mathematics</i>
Ph.D., Princeton University	

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

*** On Leave, Spring Term, 1969-70.

- Janine Reisman *Lecturer in French*
A.B., Brandeis University
- Karl M. I. Reisman *Assistant Professor of Anthropology*
Ph.D., Harvard University
- *Jack Reitzes *Assistant Professor of Education*
Ed.D., Harvard University
- Norman Rizzi *Instructor in Theater Arts*
- Dwight R. Robinson *Adjunct Assistant Professor of Biochemistry*
M.D., Columbia College of Physicians and Surgeons
- Marguerite S. Robinson *Assistant Professor of Anthropology*
Ph.D., Harvard University
- John P. Roche *Herter Professor of International Relations*
Ph.D., Cornell University
- Nicholas Rodis *Professor of Physical Education*
Ed.M., American International College
- ***Leslie L. Roos, Jr. *Assistant Professor of Politics*
Ph.D., Massachusetts Institute of Technology
- Larry Rosenberg *Assistant Professor of Sociology*
Ph.D., University of Chicago
- Myron Rosenblum *Professor of Chemistry*
Ph.D., Harvard University
- Gerald Rosenthal *Associate Professor of Economics*
Ph.D., Harvard University
- Hugo Rossi *Professor of Mathematics*
Ph.D., Massachusetts Institute of Technology
- Judith R. Rothschild *Assistant Professor of French*
Ph.D., Johns Hopkins University
- Charles C. Russell *Lecturer in Italian*
M.A., Bryn Mawr College
- Murray Sachs *Professor of French*
Ph.D., Columbia University
- I. Milton Sacks *Professor of Politics*
Ph.D., Yale University
- Benson Saler *Associate Professor of Anthropology*
Ph.D., University of Pennsylvania
- Ina Samuels *Visiting Lecturer in Psychology*
Ph.D., University of Michigan
- Peter M. Sander *Assistant Professor of Theater Arts*
M.F.A., Carnegie Institute of Technology
- Nahum M. Sarna *Golding Professor of Biblical Studies*
Ph.D., Dropsie College
- David G. Schaeffer *Lecturer and Research Associate in Mathematics*
Ph.D., Massachusetts Institute of Technology
- Jerome A. Schiff *Professor of Biology*
Ph.D., University of Pennsylvania
- Peter E. Schmidt *Assistant Professor of Physics*
Ph.D., Columbia University

• On Leave, 1969–70.

••• On Leave, Spring Term, 1969–70.

Melvyn Schnall	<i>Assistant Professor of Psychology</i>
Ph.D., Clark University	
*Howard J. Schnitzer	<i>Professor of Physics</i>
Ph.D., University of Rochester	
Barney K. Schwalberg	<i>Assistant Professor of Economics</i>
Ph.D., Harvard University	
Morris S. Schwartz	<i>Gryzmish Professor of Human Relations</i>
Ph.D., University of Chicago	
**Silvan S. Schweber	<i>Professor of Physics</i>
Ph.D., Princeton University	
Niki Scoufopoulos	<i>Assistant Professor of Classics</i>
Ph.D., Yale University	
*Robert T. Seeley	<i>Professor of Mathematics</i>
Ph.D., Massachusetts Institute of Technology	
William Chapin Seitz	<i>Professor of Fine Arts</i>
Ph.D., Princeton University	
John W. Senders	<i>Lecturer in Psychology</i>
A.B., Harvard University	
Richard Sennett	<i>Assistant Professor of Sociology</i>
Ph.D., Harvard University	
Harold S. Shapero	<i>Naumburg Professor of Music</i>
A.B., Harvard University	
Marshall S. Shatz	<i>Assistant Professor of History</i>
M.A., Columbia University	
Seymour J. Shifrin	<i>Professor of Music</i>
M.A., Columbia University	
*Michael I. Shub	<i>Assistant Professor of Mathematics</i>
Ph.D., University of California, Berkeley	
Andrew J. Silver	<i>Lecturer in Cinematography</i>
M.Sc., Massachusetts Institute of Technology	
*Marianne L. Simmel	<i>Professor of Psychology</i>
Ph.D., Harvard University	
Mitchell Siporin	<i>Bloom Professor in Arts of Design</i>
Marshall Sklare	<i>Visiting Professor of American Jewish Sociology</i>
Ph.D., Columbia University	
Philip E. Slater	<i>Professor of Sociology</i>
Ph.D., Harvard University	
John H. Smith	<i>Associate Professor of English</i>
Ph.D., University of Illinois	
*B. Zvi Sobel	<i>Adjunct Associate Professor of Sociology</i>
Ph.D., New School for Social Research	
Gerald L. Soliday	<i>Assistant Professor of History</i>
Ph.D., Harvard University	
Barbara L. Solow	<i>Lecturer in Economics</i>
Ph.D., Harvard University	
*Frederic T. Sommers	<i>Wolfson Professor of Philosophy</i>
Ph.D., Columbia University	

* On Leave, 1969-70.

** On Leave, Fall Term, 1969-70.

- Morris Soodak
Ph.D., Fordham University
- Thomas Sowell
Ph.D., University of Chicago
- Michael Spivak
Ph.D., Princeton University
- Vishnu C. Srivastava
Ph.D., McGill University
- S. Susan Staves
Ph.D., University of Virginia
- Sidney I. Stecher
Ph.D., City University of New York
- *Colin Steel
Ph.D., Edinburgh University
- *Maurice R. Stein
Ph.D., Columbia University
- Robert F. Stein
Ph.D., Columbia University
- Raymond E. Stephens
Ph.D., Dartmouth College
- Robert Stevenson
D.Sc., Glasgow University
- Douglas J. Stewart
Ph.D., Cornell University
- Ernest Stock
Ph.D., Columbia University
- ***Maurice Sussman
Ph.D., University of Minnesota
- *Peter Swiggart
Ph.D., Yale University
- Marie Syrkin
M.A., Cornell University
- Andrew G. Szent-Gyorgyi
M.D., University of Budapest
- Robert Szulkin
Ph.D., Harvard University
- *Stephan Thernstrom
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